

**Miele Professional IP Profile****Technical Specification****CONFIDENTIAL COPY**

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**1**

## Introduction

**1.1**

Miele Professional Devices support a device specific number of optional services. Every Professional specific service starts with the prefix **prof**. The following table contains the services that are described in this specification.

<id:Service>	Mandatory	Optional	Description
profProgram		X	Program list and additional information
profSensor		X	Sensor list and additional information/values
profProcessData		X	Information on all cycles
profNotifications		X	Information on all pending notifications
profProcessStatistics		X	Statistics
profDisinfect		X	Services for disinfection Devices
profDevicePairing		X	Pairing relevant resources
Eventing/Subscriptions		X	Eventing and subscription mechanisms
IPv4 Configuration		X	Service for IP configuration
WAMP		X	WebSocket-based eventing
profFileTransfer		X	Service for transmission (read/write) of files
profBackup		X	Service for backup of Devices.
EndOfLine		X	End of line test via IP
WLAN Comissioning		X	WiFi Commissioning
profPrinterLog		X	Forward printer log data via IP
profUser		X	User Management
profPayment		X	Payment services for laundries
profDosing		X	Dosing services for laundries
profProgramSelection		X	Program selection
profPeakload		X	Peakload management
profLock		X	Locking and reservation
profSettings		X	Settings
DOP2		X	DOP2 access, e.g. for customer service

**Every Professional Device that is developed according to this specification  
MUST use the standard services to fulfil its requirements!**

**For example if a Device shall provide a mechanism for transmission of files, the service profFileTransfer MUST be used!**

**If the standard services are not sufficient, the primary contacts of this document shall be contacted to check if a new standardized method shall be defined.**

Besides that, if a service is supported within the Miele Professional IP Profile Basic this is described within the specification of the service.

## 1.2

### Participants and Primary Contacts

#### 1.2.1

Name	Function	Role
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## 1.3

### Relevant Standards and Documents

#### 1.3.1

[Miele\_Professional\_IP\_Profile\_CoreFramework]

**2**

Service: Printer

**2.1**

The resource /.../Printer/ has GET and PUT fields.

Request:

```
GET /.../Printer/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{
  "Config": {
    "href": "Config/"
  },
  "State": {
    "State": "Offline",
    "Result": [
      7,
      0,
      0
    ]
  },
  "LastPrintResult": [
    255,
    0,
    0
  ],
  "Protocol": {
    "href": "Protocol/"
  }
}
```

<FieldName>	Description
Config	Printer config node
State/State	Printer state – “Online”, “Offline”
State/Result	Printer state codes: error_code. http_statuscode. ipp_statuscode error_code: 0 - success 1 - given charge ID is invalid 2 - protocol is not yet synchronized with device 3 - protocol is not yet in finished state 4 - buffer too small to store postscript document 5 - network printer not configured

	6 - could not resolve IP address of printer 7 - could not establish connection to printer 8 - format error in received http message 9 - format error in received ipp message 10 - HTTP status code != 200 11 - IPP status code != 0 255 - no protocol printed since device has been restarted
LastPrintResult	Return code after last printing: error_code. http_statuscode. Ipp_statuscode error_code: see above
Protocol	Available for printing protocol list node

**Table: Fields used in the Printer service**

Request:

```
GET /.../Printer/Config HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "AutoPrint": true,
    "Host": "Canon1234",
    "Port": 631,
    "URI": "/ipp",
    "PageSize": "A4",
    "Duplex": "PrinterDefault",
    "LanguageList": [ "da-DK", "de-DE", "el-GR", "en-GB", "fr-FR" ],
    "Language": "de-DE",
    "CustomerName": "SomeName"
}
```

<FieldName>	Description
AutoPrint	Autoprint configuration, printing at the end of program
Host	Printer host name or IP address
Port	Printer port
URI	Printer URI
PageSize	Page size setting ("A4" or "Letter")
Duplex	Setting for duplex printing ("PrinterDefault", "On", "Off")
LanguageList	List of configurable languages (read only)
Language	Language setting for protocol printout
CustomerName	Some customer name

**Table: Fields used in the Printer/Config service**

Request:

```
PUT /.../Printer/Config HTTP/1.1
```

Host: HostNameDev  
Accept: application/vnd.miele.v1+json

Body:

```
{
  "AutoPrint": true,
  "Host": "Canon1234",
  "Port": 631,
  "URI": "/ipp",
  "PageSize": "A4",
  "Duplex": "PrinterDefault",
  "Language": "de-DE",
  "CustomerName": "SomeName"
}
```

Response:

HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>

```
{
  "AutoPrint": true,
  "Host": "Canon1234",
  "Port": 631,
  "URI": "/ipp",
  "PageSize": "A4",
  "Duplex": "PrinterDefault",
  "Language": "de-DE",
  "CustomerName": "SomeName"
}
```

The request sets corresponding values as current and saves them in nonvolatile memory  
See Table “Fields used in the Printer/Config service”

Request:

GET /.../Printer/Protocol HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json

Response:

HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>

```
{
  "01000046": {
    "href": "01000046/"
  },
  "01000045": {
    "href": "01000045/"
  }
}
```

```
"01000044": {  
    "href": "01000044/"  
},  
"01000043": {  
    "href": "01000043/"  
}  
}
```

Response returns the list of protocols available for printing.

Request:

```
POST /.../Printer/Protocol/01000046/Print HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
    "Result": [0, 200, 0]  
}
```

For explanation of the Result see Printer/State above.

The currently set printer language can be overwritten by adding parameter Language:  
"/.../Printer/Protocol/01000046/Print?Language=de-DE"

Request:

```
GET /.../Printer/Protocol/01000046/PostScript HTTP/1.1  
Host: HostNameDev  
Accept: */*
```

Response:

```
HTTP/1.1 200 OK  
Content-Type: application/postscript  
Content-Length: <decimal number of octets>  
  
<postscript data>
```

The currently set printer language can be overwritten by adding parameter Language:  
"/.../Printer/Protocol/01000046/PostScript?Language=de-DE"

## 3

### Service: profProgramConfiguration

#### 3.1

##### Overview

###### 3.1.1

ProfProgramConfiguration enables the supervisor to configure up to 20 programs within certain ranges. Up to 9 program blocks can be configured for each program.

The first 8 blocks can be any of the following block types:

- residual moisture block
- timed block
- cooling block

The 9<sup>th</sup> block is an anti-crease block.

A certain set of parameters can be configured for each program and program block.

Parameters configurable for an entire program:

- drum drive runtime in preferred direction during active program
- drum drive runtime in opposite direction during active program
- drum drive paused time during active program
- drum drive runtime in preferred direction during anti-crease phase
- drum drive runtime in opposite direction during anti-crease phase
- drum drive paused time during anti-crease phase

Parameters configurable for a residual moisture block:

- residual moisture
- process air temperature
- heating temperature
- heating level

Parameters configurable for a timed block:

- runtime of timed block
- process air temperature
- heating temperature
- heating level

Parameters configurable for a cooling block:

- process air temperature (cooling temperature)

#### 3.2

##### Program configuration

### 3.2.1

None of the programs is preconfigured upon delivery. The programs can only be configured via DOP2 interface, not via the appliance's display unit.

Existing configurations are deleted upon resetting the appliance to factory settings.

The setting range for all parameters is defined via MBE in the area

APPL\ProfCApp Programme\ProfCApp Programm Daten

Parameter	Min	Max	Schrittweite step size	
<b>Antrieb im Programm drum drive during active program</b>				
Vorzugsrichtung (sek)	0	3600	1	runtime in preferred direction
Gegenrichtung (sek)	0	3600	1	runtime in opposite direction
Pause (0,1 sek)	15	36000	1	paused time
<b>Antrieb im Knitterschutz drum drive during anti-crease phase</b>				
Vorzugsrichtung (sek)	0	3600	1	runtime in preferred direction
Gegenrichtung (sek)	0	3600	1	runtime in opposite direction
Pause (0,1 sek)	15	36000	1	paused time
Restfeuchte (%)	-7	40	1	residual moisture
Dauer Zeitblock (sek)	10	3600	1	runtime of timed block
<b>Temperatur temperature</b>				
Prozesslufttemperatur (°C)	30	80	1	process air temperature
Heizregistertemperatur (°C)	50	140	1	heating temperature
Heizstufe heating level	0	3	1	(aus - klein - mittel - voll) off - low - medium - full

If the minimum and maximum value are identical the parameter cannot be changed from the MBE setting.

## 3.3

### Required DOP2 objects

#### 3.3.1

##### GLOBAL\_PPC\_Context

###### 3.3.1.1

This object is used to read out the configured programs successively. The program ID (2041-2060) has to be entered as instance. Since not all programs have to be configured there might be gaps between the program IDs. Entering instance 0 will read out the first program that has been configured.

If the requested program is not configured the read out instance will be 0-0, the value for ProgId will be GLOBAL\_PPC\_PRG\_NONE (0). The same applies for reading out instance 0 if none of the programs has been configured [see figure 1].

Attribut	Wert	Typ	Fehler
Gelesene Inst. Wert	0 - 0		
ParaTD	0 - 0		DrumProgramPreferredDirection="RequestMask="8";Min="0"

*Figure 1: reading out first configured program -> no configured program available*

If the requested program has been configured the read out instance will be the ID of the requested program, followed by the ID of the next program that has been configured [see figure 2].

Attribut	Wert	Typ	Fehler
Gelesene Inst. Wert	2047 - 2052		
ParaTD	2047 - 2052		DrumProgramPreferredDirection="RequestMask="9";Min="0"

*Figure 2: reading out first configured program -> program available, further configured program available*

If the requested program is the last program that has been configured the ID of the requested program is followed again by the same ID [see figure 3].

Attribut	Wert	Typ	Fehler
Gelesene Inst. Wert	2052 - 2052		
ParaTD	2052 - 2052		DrumProgramPreferredDirection="RequestMask="9";Min="0"

*Figure 3: reading out specific program -> program available, no further configured program available*

**Regardless whether a program is available or nor the read out object contains the allowed value ranges for every parameter (minimum value, maximum value, step size).**

### 3.3.2

#### GLOBAL\_PPC\_Select

### 3.3.2.1

This object is used to create, edit and delete programs. The object is allowed to be sent in the following states of the appliance:

- supervisor mode
- customer service programming mode
- initial setup

The ProgId parameter has to be set to the ID of the program that is to be edited.

The SelectionType parameter defines what kind of change shall be applied to the program:

- GLOBAL\_PPC\_SELTYPE\_CONFIGURE:

Configuring (creating or editing) a program. Program name and all parameter settings are saved. All parameters must be within the allowed range, otherwise the object will be rejected [see figure 4]. Allowed parameter ranges can be read out via object .

- GLOBAL\_PPC\_SELTYPE\_SET\_NAME:

Changing the name of an already configured program. Program name is saved, parameter settings are ignored [see figure 5].

- GLOBAL\_PPC\_SELTYPE\_REMOVE:

Deleting an already configured program. Values for program name and parameter settings are ignored [see figure 6].

The program name can have a maximum length of 2x20 characters (two lines). The characters must be UTF-8 and existent within the display unit's speller.

The screenshot shows a table view of the 'ST - GLOBAL\_PPC\_Select' object with four rows. The first row (ProgId) is highlighted with a red box. The second row (SelectionType) is also highlighted with a red box. The third row (Name) contains the value 'Tolles Programm'. The fourth row (ParaTD) contains the value 'DrumProgramPreferredDirection="120";DrumProgramOpposite'. Below the table, a dialog box titled 'Bearbeite ...' (Edit...) is open, showing a list of parameters under 'Name: ParaTD'. The 'DrumProgramPreferredDir' parameter is highlighted with a red box. The dialog has 'Ok' and 'Abbruch' buttons at the bottom.

Figure 4: creating/changing a program

The screenshot shows the same table view as Figure 4. The second row (SelectionType) is highlighted with a red box. The third row (Name) contains the value 'Besserer Name'. The fourth row (ParaTD) contains the value 'DrumProgramPreferredDirection="0";DrumProgramOpposite'. The 'Besserer Name' entry in the Name field is highlighted with a red box.

Figure 5: changing a program name

The screenshot shows the same table view. The second row (SelectionType) is highlighted with a red box. The third row (Name) contains the value 'DrumProgramPreferredDirection="0";DrumProgramOpposite'. The 'DrumProgramPreferredDirection="0";DrumProgramOpposite' entry in the Name field is highlighted with a red box.

Figure 6: deleting a program

### 3.3.3

## GLOBAL\_PPC\_ContextParaBlockTD

### 3.3.3.1

This object is used to read out the configured blocks of a configured program.

The program ID (2041-2060) has to be entered as instance, followed by the block index. Index 0 is the first block, index 1 is the second block etc. The blocks are numbered consecutively, there are no gaps between block indexes.

If the requested block is not configured the read out instance will be 0-0, the value for ProgId will be GLOBAL\_PPC\_PRG\_NONE (0), the value for BlockId will be GLOBAL\_PPC\_BLOCK\_NONE (0) [see figure 7].

Node	Unit	Objekt	Attribut	R	W	Raw	Instanz	Gelesene Ins. Wert	Typ	Fel	
<b>Instanzen ST - GLOBAL_PPC_ContextParaBlockTD [8]</b>											
ST - GLOBAL_PPC_ContextParaBlockTD - 2041 [8]											
1	ST	GLOBAL_PPC_ContextPara	ProgId				2041 - 0	0-0	GLOBAL_PPC_PRG_NONE (0)		
1	ST	GLOBAL_PPC_ContextPara	BlockId				2041 - 0	0-0	GLOBAL_PPC_BLOCK_NONE (0)		
1	ST	GLOBAL_PPC_ContextPara	ResidualMoisture				2041 - 0	0-0	GLOBAL_PPC_BLOCK_TYPE_NONE (0)		
1	ST	GLOBAL_PPC_ContextPara	RunningTime				2041 - 0	0-0	RequestMask:<9> Min:<0> Max:<400> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_PERCENT_VALUE (1)>		
1	ST	GLOBAL_PPC_ContextPara	ProcessAirTemperature				2041 - 0	0-0	RequestMask:<9> Min:<10> Max:<3600> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_DURATIONSEC_VALUE (0)>		
1	ST	GLOBAL_PPC_ContextPara	HeatingTemperature				2041 - 0	0-0	RequestMask:<9> Min:<20> Max:<90> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_TEMPERATUREREC1C_VALUE (2)>		
1	ST	GLOBAL_PPC_ContextPara	HeatingLevel				1041 - 0	0-0	RequestMask:<9> Min:<0> Max:<40> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_TEMPERATUREREC1C_VALUE (2)>		
										RequestMask:<9> Min:<0> Max:<1> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_NO_INTERPRETATION (0)>	

Figure 7: read out block -> program or block not available

If the requested block has been configured the read out instance will be the ID of the requested block, followed by the ID of the next block that has been configured [see figure 8].

Node	Unit	Objekt	Attribut	R	W	Raw	Instanz	Gelesene Ins. Wert	Typ	Fel
<b>Instanzen ST - GLOBAL_PPC_ContextParaBlockTD [8]</b>										
ST - GLOBAL_PPC_ContextParaBlockTD - 2047 [8]										
1	ST	GLOBAL_PPC_ContextPara	ProgId				2047 - 0	0-1	GLOBAL_PPC_PRG_7 (2047)	
1	ST	GLOBAL_PPC_ContextPara	BlockId				2047 - 0	0-1	GLOBAL_PPC_BLOCK_7 (0)	
1	ST	GLOBAL_PPC_ContextPara	BlockType				2047 - 0	0-1	GLOBAL_PPC_BLOCK_TYPE_ARM (1)	
1	ST	GLOBAL_PPC_ContextPara	ResidualMoisture				2047 - 0	0-1	RequestMask:<9> Min:<7> Max:<80> CurrentValue:<6> StepSize:<1> IntType:<GLOBAL_VALINT_PERCENT_VALUE (1)>	
1	ST	GLOBAL_PPC_ContextPara	RunningTime				2047 - 0	0-1	RequestMask:<9> Min:<10> Max:<3600> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_DURATIONSEC_VALUE (0)>	
1	ST	GLOBAL_PPC_ContextPara	ProcessAirTemperature				2047 - 0	0-1	RequestMask:<9> Min:<30> Max:<80> CurrentValue:<60> StepSize:<1> IntType:<GLOBAL_VALINT_TEMPERATUREREC1C_VALUE (2)>	
1	ST	GLOBAL_PPC_ContextPara	HeatingTemperature				2047 - 0	0-1	RequestMask:<9> Min:<50> Max:<140> CurrentValue:<120> StepSize:<1> IntType:<GLOBAL_VALINT_TEMPERATUREREC1C_VALUE (2)>	
1	ST	GLOBAL_PPC_ContextPara	HeatingLevel				1047 - 0	0-1	RequestMask:<9> Min:<0> Max:<1> CurrentValue:<2> StepSize:<2> IntType:<GLOBAL_VALINT_NO_INTERPRETATION (0)>	

Figure 8: reading out first block of a program -> block available, further configured block available

If the requested block is the last block that has been configured the ID of the requested block is followed again by the same ID [see figure 9].

Node	Unit	Objekt	Attribut	R	W	Raw	Instanz	Gelesene Ins. Wert	Typ	Fel
<b>Instanzen ST - GLOBAL_PPC_ContextParaBlockTD [8]</b>										
ST - GLOBAL_PPC_ContextParaBlockTD - 2047 [8]										
1	ST	GLOBAL_PPC_ContextPara	ProgId				2047 - 2	2-2	GLOBAL_PPC_PRG_7 (2047)	
1	ST	GLOBAL_PPC_ContextPara	BlockId				2047 - 2	2-2	GLOBAL_PPC_BLOCK_7 (0)	
1	ST	GLOBAL_PPC_ContextPara	BlockType				2047 - 2	2-2	GLOBAL_PPC_BLOCK_TYPE_ARM (1)	
1	ST	GLOBAL_PPC_ContextPara	ResidualMoisture				2047 - 2	2-2	RequestMask:<9> Min:<7> Max:<80> CurrentValue:<6> StepSize:<1> IntType:<GLOBAL_VALINT_PERCENT_VALUE (1)>	
1	ST	GLOBAL_PPC_ContextPara	RunningTime				2047 - 2	2-2	RequestMask:<9> Min:<10> Max:<3600> CurrentValue:<0> StepSize:<1> IntType:<GLOBAL_VALINT_DURATIONSEC_VALUE (0)>	
1	ST	GLOBAL_PPC_ContextPara	ProcessAirTemperature				2047 - 2	2-2	RequestMask:<9> Min:<30> Max:<80> CurrentValue:<60> StepSize:<1> IntType:<GLOBAL_VALINT_TEMPERATUREREC1C_VALUE (2)>	
1	ST	GLOBAL_PPC_ContextPara	HeatingTemperature				2047 - 2	2-2	RequestMask:<9> Min:<50> Max:<140> CurrentValue:<120> StepSize:<1> IntType:<GLOBAL_VALINT_TEMPERATUREREC1C_VALUE (2)>	
1	ST	GLOBAL_PPC_ContextPara	HeatingLevel				1047 - 2	2-2	RequestMask:<9> Min:<0> Max:<1> CurrentValue:<2> StepSize:<2> IntType:<GLOBAL_VALINT_NO_INTERPRETATION (0)>	

Figure 9: reading out third block of a program -> block available, no further configured block available

Regardless whether a block is available or nor the read out object contains the allowed value ranges for every parameter (minimum value, maximum value, step size).

### 3.3.4

## GLOBAL\_PPC\_SelectParaBlockTD

### 3.3.4.1

This object is used to create and edit blocks. The object is allowed to be sent in the following states of the appliance:

- supervisor mode
- customer service programming mode

- initial setup

The ProgId parameter has to be set to the ID of the program that is to be edited, the BlockId parameter has to be set to the index of the block that is to be edited [see figure 10].

	Attribut	R	W	Raw	Instanz	Gelesene Ins Wert	Typ	Fehler
<b>ST - GLOBAL_PPC_SelectParaBlockTD (8)</b>								
1	ST GLOBAL_PPC_SelectParaBlockTD ProgId	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD BlockId	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD BlockType	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD ResidualMoisture	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD RunningTime	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD ProcessAirTemperature	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD HeatingTemperature	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		
1	ST GLOBAL_PPC_SelectParaBlockTD HeatingLevel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 - 0	1-1		

Figure 10: configuring a block

The program must be configured via object **Fehler! Verweisquelle konnte nicht gefunden werden.** prior to this.

The blocks must be created consecutively, there are no gaps allowed between block indexes.

The BlockType parameter must be set to either GLOBAL\_PPC\_BLOCK\_TYPE\_RM (residual moisture block), GLOBAL\_PPC\_BLOCK\_TYPE\_TIME (timed block) or GLOBAL\_PPC\_BLOCK\_TYPE\_COOLING (cooling block).

Depending on the block type further parameters can be edited. The following table shows which parameters are mandatory (X) or irrelevant (-) depending on the block type:

	GLOBAL_PPC_BLOCK_TYPE_RM (residual moisture block)	GLOBAL_PPC_BLOCK_TYPE_TIME (timed block)	GLOBAL_PPC_BLOCK_TYPE_COOLING (cooling block)
ResidualMoisture	X	-	-
RunningTime	-	X	-
ProcessAirTemperature	X (if HeatingLevel > 0)	X (if HeatingLevel > 0)	X (cooling temperature)
HeatingTemperature	X (if HeatingLevel > 0)	X (if HeatingLevel > 0)	-
HeatingLevel	X	X	-

All parameters must be within the allowed range, otherwise the object will be rejected. The same applies if program ID, block index or block type contain invalid values.

Blocks cannot be deleted individually. To delete a block the entire program has to be deleted and recreated if necessary.

## 3.4

### Use cases

#### 3.4.1

##### Reading out configured programs and configured blocks

###### 3.4.1.1

Configured programs can be read out individually using the object . Instance 0 corresponds to the first configured program. The answer (read out instance) contains the program ID of the next configured program. This allows iterating over all configured programs.

Configured blocks for all configured programs can be read out using the object **Fehler! Verweisquelle konnte nicht gefunden werden..** Program ID and block index must be given as parameters. All blocks of a program can be read by starting with index 0 and continuing in ascending order until no further block is available. Blocks of a program must always be created consecutively.

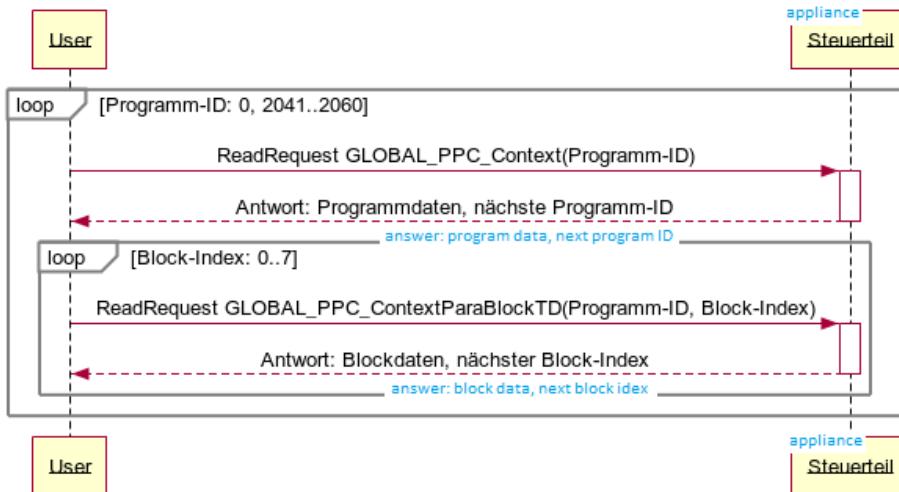


Figure 11: Sequence chart: reading out configured program

### 3.4.2

#### Creating or editing a program with blocks

##### 3.4.2.1

Before creating or editing a program the allowed parameter ranges should be read out using the objects and **Fehler! Verweisquelle konnte nicht gefunden werden..** Afterwards the program with the desired program ID can be configured using the object **Fehler! Verweisquelle konnte nicht gefunden werden..**, SelectionType GLOBAL\_PPC\_SELTYPE\_CONFIGURE.

A newly created program is starting out without any blocks. An existing program keeps its already existing blocks.

After creating a program the individual blocks can be configured using the object . Blocks must be created consecutively. Any existing block can be edited. Blocks cannot be deleted individually. If a program contains more blocks than desired the entire program has to be deleted and recreated.

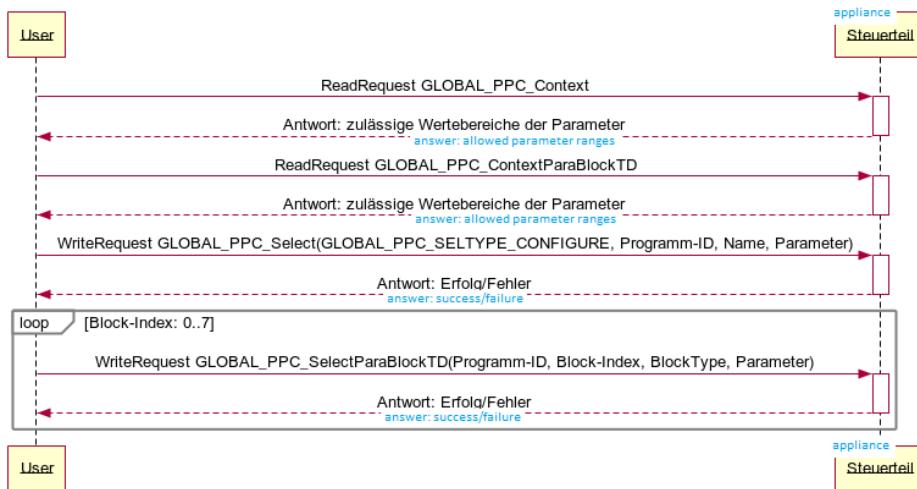


Figure 12: Sequence chart: creating a program

### 3.4.3

#### Deleting a program

##### 3.4.3.1

An existing program configuration can be deleted via object **Fehler! Verweisquelle konnte nicht gefunden werden.**, SelectionType GLOBAL\_PPC\_SELTYPE\_REMOVE.

### 3.5

#### Program packages and favorites

##### 3.5.1

All 20 programs can be activated within the program package menu. This also applies to programs that have not been configured. Upon leaving the menu the display will show a notification if an activated program has not been configured yet.

The program overview will only list configured programs.

All 20 programs can be selected when editing favorites. This also applies to programs that have not been configured. In this case the selection will be accepted and the display will show a notification that the selected program has not been configured yet. Upon leaving supervisor mode or customer service programming mode favorites with programs that have not been configured will be reset to factory settings.

## 3.6

### Special cases

#### 3.6.1

After a voltage failure during a running program the program will restart from the first block. The same applies for restarting after peak load interruption.

## 3.7

### Remaining time prediction

#### 3.7.1

As long as no learning value for remaining time prediction has been stored for a program the value for remaining time before start (time normal in minutes) from the MBE is displayed before program start.

Restzeit	Startvorwahl	RF abhängige Beladungserkennung	Beladung	Luftmangel	Blockierung																																																																																																						
<i>remaining time</i>																																																																																																											
<table border="1"> <tr> <td>Vorstart</td> <td><i>time before start (drying level normal)</i></td> <td colspan="4">Prognosezeit</td> </tr> <tr> <td>Zeit (schranktrocken) [min]</td> <td>60</td> <td>SteigungM</td> <td>0</td> <td colspan="2"></td> </tr> <tr> <td>Zusatzzeit je % Restfeuchte [s]</td> <td>0</td> <td>BWK 1</td> <td>0</td> <td colspan="2"></td> </tr> <tr> <td>Korrekturfaktor Zeit K_s1[%]</td> <td>110 <i>time correction factor</i></td> <td>BWK 2</td> <td>0</td> <td colspan="2"></td> </tr> <tr> <td>Korrekturfaktor Zeit K_s2[%]</td> <td>120 <i>time correction factor</i></td> <td colspan="4"></td> </tr> <tr> <td colspan="6">Maximale Erhöhung an den Restfeuchtestufen</td> </tr> <tr> <td colspan="6"> <table border="1"> <tr> <td>mangelfeucht [min]</td> <td>0</td> </tr> <tr> <td>bügelfeucht [min]</td> <td>0</td> </tr> </table> </td> </tr> <tr> <td colspan="6">Lernwertspeicher</td> </tr> <tr> <td colspan="6"> <table border="1"> <tr> <td>Speicherplatz</td> <td><i>memory location</i></td> <td>255</td> </tr> <tr> <td colspan="3">Speicherplatz, in den die Restzeit der Gruppe gelernt wird.</td> </tr> </table> </td> </tr> <tr> <td colspan="6"> <table border="1"> <tr> <td colspan="8">Prognosekorridor</td> </tr> <tr> <td colspan="8">Max. Impulszahl in aufsteigender Folge eingeben</td> </tr> <tr> <td>max. Impulszahl</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Prognose-Initialwert [min]</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table> </td> </tr> </table>						Vorstart	<i>time before start (drying level normal)</i>	Prognosezeit				Zeit (schranktrocken) [min]	60	SteigungM	0			Zusatzzeit je % Restfeuchte [s]	0	BWK 1	0			Korrekturfaktor Zeit K_s1[%]	110 <i>time correction factor</i>	BWK 2	0			Korrekturfaktor Zeit K_s2[%]	120 <i>time correction factor</i>					Maximale Erhöhung an den Restfeuchtestufen						<table border="1"> <tr> <td>mangelfeucht [min]</td> <td>0</td> </tr> <tr> <td>bügelfeucht [min]</td> <td>0</td> </tr> </table>						mangelfeucht [min]	0	bügelfeucht [min]	0	Lernwertspeicher						<table border="1"> <tr> <td>Speicherplatz</td> <td><i>memory location</i></td> <td>255</td> </tr> <tr> <td colspan="3">Speicherplatz, in den die Restzeit der Gruppe gelernt wird.</td> </tr> </table>						Speicherplatz	<i>memory location</i>	255	Speicherplatz, in den die Restzeit der Gruppe gelernt wird.			<table border="1"> <tr> <td colspan="8">Prognosekorridor</td> </tr> <tr> <td colspan="8">Max. Impulszahl in aufsteigender Folge eingeben</td> </tr> <tr> <td>max. Impulszahl</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Prognose-Initialwert [min]</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table>						Prognosekorridor								Max. Impulszahl in aufsteigender Folge eingeben								max. Impulszahl	0	0	0	0	0	0	0	Prognose-Initialwert [min]	0	0	0	0	0	0	0
Vorstart	<i>time before start (drying level normal)</i>	Prognosezeit																																																																																																									
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max. Impulszahl	0	0	0	0	0	0	0																																																																																																				
Prognose-Initialwert [min]	0	0	0	0	0	0	0																																																																																																				

Additionally the time correction factor is taken into account (K\_s1 without delayed start, K\_s2 with delayed start).

The memory location must be set to 255. Any other parameters for remaining time must be set to 0.

After a program has run for the first time the drying time needed is stored as learning value for remaining time prediction.

As soon as a learning value is available the mean of the existing learning value and the actual drying time is stored as the new learning value upon reaching a regular program end.

Before program start the learning value with added correction factor is displayed as remaining time prediction.

Learning values are stored in the EEPROM as part of the program configuration data.

When deleting a program configuration the respective learning value is deleted as well.

If the remaining time has expired before the program has reached its end the remaining time is increased by 10% of the value for remaining time before start or rather 10% of the learning value without added correction factor, at the least by 1 minute.

The maximum program duration defined in the MBE applies to the configured programs.

## 3.8

### Process technology

#### 3.8.1

A special process technology program (VT-Programm) acts as template for the 20 programs. This program is manipulated according to the configured parameters.

The following parameters have to be set as described for the template program:

- program type: residual moisture program
- target residual moisture: -128 (%) for all, the programs do not have a target residual moisture
- program step if target residual moisture is reached: anti crease

Allgemein							
ProgrammID	Prof CApp Programm						
Programmart	Restfeuchte	residual moisture program					
Programmgruppe	VT Parameter.Programmgruppe.ProfCApp (ATR)						
Abkühlzeitveränderung	Ein						
Max. Programmlaufzeit [min]	180	wenn überschritten					
Wenn Endrestfeuchte erreicht target residual moisture reached	Knitterschutz	anti crease					
Beladungsgrenze [%]	0	wenn unterschritten					
Soll Endrestfeuchten [%]							
target residual moisture	feuchter3	feuchter2	feuchter1	standard	trockener1	trockener2	trockener3
extratrocken	-128	-128	-128	-128	-128	-128	-128
schranktrocken plus	-128	-128	-128	-128	-128	-128	-128
schranktrocken	-128	-128	-128	-128	-128	-128	-128
leichttrocken	-128	-128	-128	-128	-128	-128	-128
bügelfeucht <sup>*</sup>	-128	-128	-128	-128	-128	-128	-128
bügelfeucht <sup>**</sup>	-128	-128	-128	-128	-128	-128	-128
mangelfeucht	-128	-128	-128	-128	-128	-128	-128

The blocks for motor start-up and room temperature sensing are processed as in all other programs. They are followed by one block per special block type for ProfProgramConfiguration: residual moisture block, timed block, cooling block.



After the room temperature sensing block has been processed the special program step ProfCAppNaechsterBlock (PPC next block, there is no block with this ID) will lead to the first configured block.

Block ID	<a href="#">MessungRaumtemperatur temperature sensing block</a>	Korrekturblock, werden vor Bearbeitung dieses Blocks durchgeführt werden
Blockart	<a href="#">MessphaseRaumtemperatur</a>	
Sprungwerte		
maximale Blockdauer [s] <a href="#">block time</a>	60	wenn überschritten <a href="#">exceeded</a>
		<a href="#">ProfCAppNaechsterBlock PPC next block</a>
Block ID	<a href="#">ProfCAppRestfeuchte PPC residual moisture block</a>	Korrekturblock, werden vor Bearbeitung dieses Blocks durchgeführt werden
Blockart	<a href="#">ProfCAppRestfeuchte</a>	
Sprungwerte		
maximale Blockdauer [s]	0	wenn überschritten
Sprungrestfeuchte [%] <a href="#">configured residual moisture</a>	20	wenn erreicht <a href="#">reached</a>
		<a href="#">ProfCAppNaechsterBlock PPC next block</a>
Block ID	<a href="#">ProfCAppZeit PPC timed block</a>	Korrekturblock, werden vor Bearbeitung dieses Blocks durchgeführt werden
Blockart	<a href="#">ProfCAppZeit</a>	
Sprungwerte		
maximale Blockdauer [s] <a href="#">configured block time</a>	600	wenn überschritten <a href="#">exceeded</a>
		<a href="#">ProfCAppNaechsterBlock PPC next block</a>
Block ID	<a href="#">ProfCAppAbkuhlen PPC cooling block</a>	Korrekturblock, werden vor Bearbeitung dieses Blocks durchgeführt werden
Blockart	<a href="#">ProfCAppAbkuhlen</a>	
Sprungwerte		
maximale Blockdauer [s]	0	wenn überschritten
Sprungrestfeuchte [%]	0	wenn erreicht
Restfeuchte Impulschwelle	0	wenn erreicht
maximale Heizregistertemperatur (T2) [C°] <a href="#">configured cooling temperature</a>	0	wenn überschritten
Prozesslufttemperaturgrenze (T1) [C°]	50	wenn überschritten
wenn T1 unterschritten und [(Blockart => Abkühlen) oder (Blockart = Abkühle <a href="#">temperature fallen below limit</a> )		<a href="#">ProfCAppNaechsterBlock PPC next block</a>

The program does not contain a comfort cooling block. The behaviour must be implemented by a dedicated cooling block.

## 4

### Service: profProgram

#### 4.1

The resource `/.../profProgram/` returns information on all programs supported by the *Device*.

Access must be granted according to the user level.

Additionally, the resource is used to select a program, send user requests and to read the supported user requests.

```
GET /.../profProgram/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The *Device* provides a link where the relevant information can be found.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
```

Content-Length: <decimal number of octets>

```
{
  "List" : { "href" : "List/" },
  "Selection" : { "href" : "Selection/" },
  "UserRequest" : { "href" : "UserRequest/" }
}
```

## 4.2

### Read Program List

#### 4.2.1

The resource /.../profProgram/List is read-only, and it returns information on all programs supported by the *Device*.

GET /.../profProgram/List/ HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

The *Device* replies with the available program IDs.

HTTP/1.1 200 OK

Content-Type: application/vnd.miele.v1+json; charset=utf-8

Content-Length: <decimal number of octets>

```
{
  "100": {"href": "100"},
  "101": {"href": "101"},
  "103": {"href": "103"}
```

The individual program info can be requested via

GET /.../profProgram/List/100/ HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

The *Device* replies with

HTTP/1.1 200 OK

Content-Type: application/vnd.miele.v1+json; charset=utf-8

Content-Length: <decimal number of octets>

```
{
  "ID": 100,
```

```
"Name": "...some name..."  
}
```

The field *Name* is string and optional.

## 4.3

### Program Selection

#### 4.3.1

Program selection is performed via the resource .../profProgram/Selection.

```
GET .../profProgram/Selection/ HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

The *Device* replies

```
HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
  "Select": {"href": "/Select"},  
  "Context": {"href": "/Context"}  
}
```

#### 4.3.2

### Context

### 4.3.2.1

#### Essential Properties:

<Fieldname>	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	Bitmask LSB 0x00: not supported 0x01: value is adjustable 0x08: value is visible  <b>The parameter can only be changed if the Bit 0x01 is set!</b>
CurrentValue	u16	R	current value
CurrentValueInfo	u8	R	(Optional) Additional information about CurrentValue (e.g. eco/label-symbol).  0: not used 1: eco label for temperature 2: cold label for temperature
NumOfElements	u8	R	Number of valid elements in ParameterArray.
ParameterArray	u16 array	R	value list
ValueInfo	u16 array	R	(Optional) Additional information about parameter in Parameter Array (e.g. eco/label-symbol).  0: not used 1: eco label for temperature 2: cold label for temperature
IntType		R	see chapter <a href="#">interpretation types</a>

### 4.3.2.2

This object provides information about the supported and mandatory parameters of the currently selected program.

**Select a program via Select before use the Context (To get meaningful values)!**

The object is provided via the following **read-only** resource

```
GET /.../profProgram/Selection/Context/ HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

The *Device* replies with a supported parameter list.

Example response (Abridged for better display.):

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{
  "ContextParaPW": {
    "DelayedStart": {
      "RequestMask": 0,
      "Min": 0,
      "Max": 0,
      "CurrentValue": 0,
      "NumberOfElements": 0,
      "ParameterArray": [
        0
      ],
      "ParameterArrayExt": [
        0
      ],
      "IntType": 0
    },
    "DelayedStartMode": {
      "RequestMask": 0,
      "SupportedBits": 0,
      "CurrentValue": 0,
      "IntType": 0
    },
    "CapDosing": {
      "RequestMask": 0,
      "CurrentValue": 0,
      "NumberOfElements": 0,
      "ParameterArray": [
        0,
        0,
        0,
        0,
        0
      ]
    }
  }
}
```

```
        0,  
        0,  
        0,  
        0,  
        0  
    ],  
    "IntType": 0  
},  
"AutoDos": {  
    "Container": [  
        {  
            "RequestMask": 0,  
            "SupportedBits": 0,  
            "CurrentValue": 0,  
            "IntType": 0  
        },  
        {  
            "RequestMask": 0,  
            "SupportedBits": 0,  
            "CurrentValue": 0,  
            "IntType": 0  
        }  
    ],  
    "NoLaundryDetergent": {  
        "RequestMask": 0,  
        "CurrentValue": false,  
        "IntType": 0  
    },  
    "NoFabricConditioner": {  
        "RequestMask": 0,  
        "CurrentValue": false,  
        "IntType": 0  
    },  
    "NoAdditive": {  
        "RequestMask": 0,  
        "CurrentValue": false,  
        "IntType": 0  
    },  
    "NotAdjustableInfo": [  
        0,  
        0  
    ]  
},  
"Extras": {  
    "Quick": {  
        "RequestMask": 0,  
        "CurrentValue": false,  
        "IntType": 0  
    },  
    "Single": {  
        "RequestMask": 0,  
        "CurrentValue": false,  
        "IntType": 0  
    }  
}
```

```
        "IntType": 0
    },
    "WaterPlus": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "RinsingPlus": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "PreWash": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "Soak": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "RinseHold": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "ExtraQuiet": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "SteamSmoothing": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    },
    "PreRinse": {
        "RequestMask": 0,
        "CurrentValue": false,
        "IntType": 0
    }
},  
... and more parameters
```

#### 4.3.3

## Select

### 4.3.3.1

#### Select

This object is used to perform the program selection. The object is accessed via the following resource

```
GET /.../profProgram/Selection/Select/ HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

The *Device* replies with the **template** of parameters. These parameters can also be found in the Context with information in which range the parameter can be set.

```
HTTP/1.1 200 OK
```

```
Content-Type: application/vnd.miele.v1+json
```

```
Content-Length: <decimal number of octets>
```

```
{
```

```
    "ProgId": 0,  
    "SelectionType": 0,  
    "SelectionParaPW": {  
        "DelayedStart": 0,  
        "DelayedStartMode": 0,  
        "Temperature": 0,  
        "TemperatureInfo": 0,
```

*.... and more parameters*

The most important parameter are the ProgId and the SelectionType. These parameters are mandatory for each program selection and parameterization.

ProgId	u16	W	program id
SelectionType	u16	W	1: <b>INITIAL_DEFAULT</b> Initial selection of the program. BT fills only some essential parameters given by the cover plate configuration data. Other Pro-

			<p>gram parameters will be initialized by the ST. This initialization uses default program data from the MBE. Using memory data is not allowed, even if the ST is configured to do so.</p> <p><b>2: PARAMETRIZATION</b> Changing the program parameters, program ID doesn't change. No initializing via the control unit (ST).</p> <p><b>4: GLOBAL_INITIAL_FULL</b> Complete Selection. All parameters (correct value range!) must be sent.</p>
--	--	--	---

#### Example ProgramSelect:

First select the program with initial default values.

**PUT** /.../profProgram/Selection/Select HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

Body:

```
{
  "ProgId": 11,
  "SelectionType": 1,
}
```

Read the Context to get parameter informations and ranges (Example professional washing):

**GET** /.../profProgram/Selection/Context/ HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

***Extract of the response!***

```
"ProgAttributesPW": {
```

```
"ProgId": 11,  
  
.....  
    "Extras": {  
        "Quick": {  
            "RequestMask": 0,  
            "CurrentValue": false,  
            "IntType": 0  
        },  
        "Single": {  
            "RequestMask": 0,  
            "CurrentValue": false,  
            "IntType": 0  
        },  
        "WaterPlus": {  
            "RequestMask": 9,  
            "CurrentValue": false,  
            "IntType": 0  
        }  
    }  
.....
```

Program ID 11 is selected and the parameter WaterPlus is adjustable (see RequestMask).

## Parametrization

```
PUT /.../profProgram/Selection>Select HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

Body:

```
{  
    "ProgId": 11,  
    "SelectionType": 2,  
    "SelectionParaPW": {  
        "Extras": {  
            "WaterPlus": true,  
        },  
    },  
}
```

In this example, the Extra **WaterPlus** is set to true. The framework for the JSON is the Selection structure  
 (GET /.../profProgram/Selection>Select )

#### 4.3.3.2

##### Program ID List

This is an example from semi professional Washin machines. Not all the ProgID's are matching on other devices. For getting the program ID's use profProgram/Selection>Select

Phasen:

*Names EN//DE*

program.phase.257	Pre-Wash // Vorwaschen
program.phase.258	Soak // Einweichen
program.phase.259	Pre-Wash // Vorspülen
program.phase.260	Main Wash // Waschen
program.phase.261	Rinse // Spülen
program.phase.262	Rinse Hold // Spülensstop
program.phase.263	Main Wash // Reinigen
program.phase.264	Cooling down // Abkühlen
program.phase.265	Drain // Pumpen
program.phase.266	Spin // Schleudern
program.phase.267	Anti-crease // Knitterschutz
program.phase.268	Finished // Ende
program.phase.269	Venting // Entlüften
program.phase.270	Starch Stop // Stärkestop
program.phase.271	Freshen-up + Moisten // Auffrischen + Befeuchten
program.phase.272	Steam Smoothing // Dampfglätten
program.phase.279	Hygiene
program.phase.280	Drying // Trocknen
program.phase.285	Disinfection // Desinfektion
program.phase.295	Steam Smoothing // Dampfglätten
program.phase.513	Program Running // Programmstart
program.phase.514	Drying // Trocknen
program.phase.515	Machine Iron // Mangelfeucht
program.phase.516	Hand Iron // Bügelfeucht
program.phase.517	Normal // Schranktrocken
program.phase.518	Normal Plus // Schranktrocken plus
program.phase.520	Hand Iron // Bügelfeucht
program.phase.521	Anti-crease // Knitterschutz
program.phase.522	Finished // Ende
program.phase.523	Extra Dry // Extratrocken
program.phase.524	Hand Iron // Bügelfeucht

program.phase.526	Moisten // Anfeuchten
program.phase.528	Timed Drying // Lüften
program.phase.529	Warm Air // Lüften warm
program.phase.530	Steam Smoothing // Dampfglätten
program.phase.531	Comfort Cooling // Komforkühlen
program.phase.532	Rinse out lint // Flusen ausspülen
program.phase.533	Rinses // Spülen
program.phase.534	Smoothing // Glätten
program.phase.538	Slightly Dry // Leichttrocken
program.phase.539	Safety Cooling // Sicherheitskühlen

Extras PWM washin machine / Waschmaschine:

extra.quick	Single-Wash
extra.water-plus	Water plus // Wasser plus
extra.rinsing-plus	Rinse plus // Spülen plus
extra.pre-wash	Pre-Wash // Vorwäsche
extra.soak	Soak // Einweichen
extra.rinse-hold	Rinse hold // Spülstop
extra.extra-quiet	Extra Quiet // Extra leise
extra.steams-moothing	Pre-ironing // Vorglätteln
extra.microfibre	Microfibre // Microfaser
extra.gentle	Gentle // Schonen
extra.allergo-wash	AllergoWash
extra.eco	ECO
extra.intensive	Intensive // Intensiv
extra.starch-hold	Starch stop // Stärkestop
extra.pre-rinse	Pre-Rinse // Vorspülen

KRWM washing machine / Waschmaschine:

program.id.1	Whites // Kochwäsche
program.id.2	Colors // Buntwäsche
program.id.3	Minimum iron // Pflegeleicht
program.id.4	Delicates // Feinwäsche
program.id.6	Normal
program.id.7	Normal
program.id.8	Woolens // Wolle
program.id.9	Silks // Seide
program.id.10	Disinfection 85° C // Desinfektion 85° C
program.id.11	Disinfection 70° C // Desinfektion 70° C
program.id.14	Maintenance wash hygiene // Maschinen Hygiene
program.id.15	Disinfection 71° C // Desinfektion 71° C
program.id.16	Disinfection 65° C // Desinfektion 65° C
program.id.17	Starch // Stärken
program.id.18	Separate rinse // Extraspülen
program.id.21	Drain/Spin // Pumpen/Schleudern
program.id.22	Curtains // Gardinen

program.id.23	Shirts // Oberhemden
program.id.24	Denim // Jeans
program.id.27	Proofing // Imprägnieren
program.id.33	Table linen // Tischwäsche
program.id.34	Kitchen linen // Küchenwäsche
program.id.35	Towelling // Frottierwäsche
program.id.36	Bedspreads // Überdecken
program.id.37	Outerwear // Outdoor
program.id.39	Pillows // Kopfkissen
program.id.40	Special programme 1 // Sonderprogramm 1
program.id.41	Special programme 2 // Sonderprogramm 2
program.id.42	Special programme 3 // Sonderprogramm 3
program.id.43	Intensive wash // Intensiv Waschen
program.id.44	Towels // Handtücher
program.id.49	Express // Express
program.id.50	Dark garments // Dunkle Wäsche
program.id.51	Cottons // Baumwolle
program.id.54	Disinfection 60° C // Desinfektion 60° C
program.id.56	Normal
program.id.61	Bed linen // Bettwäschen
program.id.62	Dust/Flour special // Staub/Mehl Spezial
program.id.64	Oil/Fat special // Öl/Fett Spezial
program.id.66	Towels plus // Handtücher plus
program.id.67	Capes // Umhänge
program.id.68	MRSA // MRSA
program.id.77	Sneakers // Sportschuhe
program.id.82	Disinfection 40° C // Desinfektion 40° C
program.id.91	Maintenance wash // Maschine reinigen
program.id.93	SportMicrofiber // Sport Microfaser
program.id.94	Sportswear // Sportwäsche
program.id.95	Down bedding // Bettware Daunen
program.id.96	Synthetic bedding // Bettware Synthetik
program.id.115	WetCare sensitive // WetCare sensitiv
program.id.116	WetCare silks // WetCare Seide
program.id.117	WetCare intensive // WetCare intensiv
program.id.120	Special programme 4 // Sonderprogramm 4
program.id.121	Special programme 5 // Sonderprogramm 5
program.id.129	Down filled items // Daunen
program.id.133	Cottons // Baumwolle
program.id.136	Hard items // Hartteile
program.id.137	Lightweight curtains // Gardinen Fein
program.id.153	Cottons Pro // Baumwolle Pro
program.id.166	Drain/Spin // Ablauf/ Schleudern
program.id.167	Disinf. RKI 85° C / 15 min // Desinfekt. RKI 85°C 15 Min
program.id.168	Disinf. RKI 70° C / 10 min // Desinfekt. RKI 70°C 10 Min
program.id.169	Disinf. RKI 60° C / 20 min // Desinfekt. RKI 60°C 20 Min
program.id.170	Disinf. RKI 40° C / 20 min // Desinfekt. RKI 40°C 20 Min
program.id.171	Disinfection 80° C // Desinfektion 80°C

program.id.172	Disinfection 75° C // Desinfektion 75°C
program.id.173	Disinfection 70° C // Desinfektion 70°C
program.id.179	Dental surgery garments // Dental-Praxiskleidung
program.id.180	Laundry // Wäsche
program.id.181	WetCare desinfection // WetCare Desinfektion
program.id.182	WetCare hygiene // WetCare Hygiene
program.id.183	Express spin // Schleudern Express
program.id.190	ECO 40-60
extra.quick	Short // Kurz
extra.single	Single-Wash
extra.water-plus	Water plus // Wasser plus
extra.rinsing-plus	Rinse plus // Spülen plus
extra.pre-wash	Pre-Wash // Vorwäsche
extra.soak	Soak // Einweichen
extra.rinse-hold	Rinse hold // Spülstop
extra.extra-quiet	Extra Quiet // Extra leise
extra.steams-moothing	Pre-ironing // Vorglättchen
extra.pre-rinse	Pre-rinse // Vorspülen
extra.microfibre	Microfibre // Microfaser
extra.gentle	Gentle // Schonen
extra.allergo-wash	AllergoWash
extra.eco	ECO
extra.intensive	Intensive // Intensiv
extra.starch-hold	Starch stop // Stärkestop

#### KRTD Tumble Dryer / Trockner:

program.id.1	Automatic plus
program.id.2	Cottons // Koch-/Buntwäsche
program.id.3	Minimum iron //
program.id.4	Woolens // Wolle
program.id.5	Delicates // Feinwäsche
program.id.6	Timed drying warm air // Zeitprogramm warm
program.id.7	Timed drying cool air // Zeitprogramm kalt
program.id.8	Express
program.id.9	Cottons // Baumwolle
program.id.10	Gentle smoothing // Schonglättchen
program.id.12	Proofing // Imprägnieren
program.id.13	Denim // Jeans
program.id.14	Shirts // Oberhemden
program.id.15	Sportswear // Sportwäsche
program.id.16	Outerwear // Outdoor
program.id.17	Silks // Seide
program.id.18	Towelling // Frottierwäsche
program.id.19	Pillows // Kopfkissen
program.id.22	Basket program // Korbprogramm

program.id.23	Basket - Low temperature // Korb sensitiv
program.id.26	Cottons Pro // Baumwolle Pro
program.id.27	Cottons 40% res. moisture // Koch/Bunt 40% RF
program.id.28	Cottons 25% res. moisture // Koch/Bunt 25% RF
program.id.29	Min. iron 20% res. moisture // Pflegeleicht 20% RF
program.id.30	Synthetic bedding // Bettware Synthetik
program.id.31	Down bedding // Bettware Daunen
program.id.32	Microfiber // Microfaser
program.id.33	WetCare intensive // WetCare intensiv
program.id.34	WetCare sensitive // WetCare sensetiv
program.id.35	WetCare silks // WetCare Seide
program.id.36	Large items // Großtextilien
program.id.37	Reactivation // Reaktivierung
program.id.38	Smoothing // Glätten
program.id.39	Cottons hygiene // Baumwolle Hygiene
program.id.40	Minimum iron hygiene // Pflegeleicht Hygiene
program.id.41	Timed, warm air hygiene // Zeitprogramm Hygiene
program.id.45	Cottons, dry plus // Koch/Bunt trocken plus
program.id.46	Cottons, dry // Koch/Bunt trocken
program.id.47	Cottons 20% res. moisture // Koch/Bunt 20% RF
program.id.48	Minimum iro, dry // Pflegeleicht trocken
program.id.49	Min. iron 10% res. moisture // Pflegeleicht 10% RF
program.id.50	Natural hair bedding // Bettware Natur- haare
program.id.51	Mops // Mopp
program.id.52	Microfiber mops // Mopp Microfaser
program.id.53	Cleaning cloths // Tücher
program.id.54	Face Masks // Atemschutzmasken
program.id.55	Protective clothing // Schutzkleidung
program.id.56	Proof protect. clothing // Schutzkleidung imprägnieren
program.id.57	Horse blankets // Pferdedecken
program.id.58	Wool horse blankets // Pferdedecken Wolle
program.id.2001	Special programme 1 // Sonderprogramm 1
program.id.2002	Special programme 2 // Sonderprogramm 2
program.id.2003	Special programme 3 // Sonderprogramm 3
program.id.2004	Special programme 4 // Sonderprogramm

	4
program.id.2005	Special programme 5 // Sonderprogramm 5
program.id.2006	Special programme 6 // Sonderprogramm 6
program.id.2007	Special programme 7 // Sonderprogramm 7
program.id.2008	Special programme 8 // Sonderprogramm 8
program.id.2009	Special programme 9 // Sonderprogramm 9
program.id.2010	Special programme 10 // Sonderprogramm 10
program.id.2011	Special programme 11 // Sonderprogramm 11
program.id.2012	Special programme 12 // Sonderprogramm 12
program.id.2013	Special programme 13 // Sonderprogramm 13
program.id.2014	Special programme 14 // Sonderprogramm 14
program.id.2015	Special programme 15 // Sonderprogramm 15
program.id.2016	Special programme 16 // Sonderprogramm 16
program.id.2017	Special programme 17 // Sonderprogramm 17
program.id.2018	Special programme 18 // Sonderprogramm 18
program.id.2019	Special programme 19 // Sonderprogramm 19
program.id.2020	Special programme 20 // Sonderprogramm 20
program.id.2021	Timed drying // Zeitprogramm
program.id.2022	Timed drying // Zeitprogramm
program.id.2023	Timed drying // Zeitprogramm
program.id.2024	Timed drying // Zeitprogramm
program.id.65000	NEU00
program.id.65001	NEU01
program.id.65002	NEU02
program.id.65003	NEU03
program.id.65004	NEU04
program.id.65005	NEU05
program.id.65006	NEU06
program.id.65007	NEU07
program.id.65008	NEU08
program.id.65009	NEU09
program.id.65100	LABOR00
program.id.65101	LABOR01

program.id.65102	LABOR02
program.id.65103	LABOR03
program.id.65104	LABOR04
extra.gentle	Gentle Plus // Schonen Plus
extra.short	Short // Kurz
extra.refresh	Refresh // Auffrischen
extra.hygiene	Hygiene
extra.single-dry	Single Dry
extra.eco	ECO
extra.anti-crease	Anti-crease // Knitterschutz
extra.gentle-simple	Gentle // Schonen

#### 4.3.4

##### Error Handling

###### 4.3.4.1

If an error occurred, the *Device* replies

```
HTTP/1.1 500 Internal Server Error
Date: ...
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
X-Signature: MieleH256 ...

{
  "Dop2Error": 123,
  "ErrorCausedByXkm": 1
}
```

The field Dop2Error contains the ID of the Dop2Error.

The field ErrorCausedByXkm returns 1, if the error is the XKM (communication module) caused the error.

The following table contains some DOP2Error IDs and remarks how to proceed after the error has been received.

ID	Error Handling
49152 (0xC000)	This error is returned due to a DOP2 timeout. The client shall try again, if this error is received. The client shall per-

	form 3 retries, each separated by a random time interval between [500...1500]ms.
--	--

If the buffer/message handler within the communication module is full, the communication module returns a

HTTP/1.1 507 Insufficient Storage
-----------------------------------

Date: ...

If a 507 is received, the client shall wait at least 500ms and try again.

If the *Device* is switched off / communication is not possible, the XKM returns a

HTTP/1.1 504 Gateway Timeout
------------------------------

Date: ...

The client shall try to wake-up the Device, wait 1s and try again.

If that does not work, no additional retries shall be performed.

If no handler is available in the XKM, the XKM returns a

HTTP/1.1 503 Service Unavailable
----------------------------------

Date: ...

If a 503 is received, the client shall wait at least 500ms and try again.

## DOP 2 Error Codes returned in Dop2Error

#define DOP2_ERROR_NO_ERROR	0u	// 0x0000
#define DOP2_ERROR_WRONG_PARAMETER	(DOP2_ERROR_PROCESSING_MASK   0u)	// 0x50A0
#define DOP2_ERROR_WRONG_INSTANCE	(DOP2_ERROR_PROCESSING_MASK   1u)	// 0x50A1
#define DOP2_ERROR_WRONG_COMMUNICATION_PARTICIPANTS	(DOP2_ERROR_PROCESSING_MASK   2u)	// 0x50A2
#define DOP2_ERROR_WRONG_OBJECT_INSTANCE	(DOP2_ERROR_PROCESSING_MASK   3u)	// 0x50A3
#define DOP2_ERROR_FEATURE_IS_DEACTIVATED	(DOP2_ERROR_PROCESSING_MASK   4u)	// 0x50A4
#define DOP2_ERROR_NO_AUTHORIZATION	(DOP2_ERROR_PROCESSING_MASK   5u)	// 0x50A5
#define DOP2_ERROR_NO_BUFFER_IS_FREE	(DOP2_ERROR_PROCESSING_MASK   6u)	// 0x50A6
#define DOP2_ERROR_WRONG_BUFFER_POINTER	(DOP2_ERROR_PROCESSING_MASK   7u)	// 0x50A7
#define DOP2_ERROR_BUFFER_OVERFLOW	(DOP2_ERROR_PROCESSING_MASK   8u)	// 0x50A8
#define DOP2_ERROR_BUFFER_REFERENCE_COUNT_OVERFLOW	(DOP2_ERROR_PROCESSING_MASK   9u)	// 0x50A9
#define DOP2_ERROR_WRONG_DATA_TYPE	(DOP2_ERROR_DATA_MASK   0u)	// 0x50B0
#define DOP2_ERROR_WRONG_DATA_SIZE	(DOP2_ERROR_DATA_MASK   1u)	// 0x50B1
#define DOP2_ERROR_WRONG_DATA_BUFFER_SIZE	(DOP2_ERROR_DATA_MASK   2u)	// 0x50B2
#define DOP2_ERROR_WRONG_DATA_POINTER	(DOP2_ERROR_DATA_MASK   3u)	// 0x50B3
#define DOP2_ERROR_WRONG_OBJECT_ID	(DOP2_ERROR_DATA_MASK   4u)	// 0x50B4
#define DOP2_ERROR_WRONG_OBJECT_BUFFER_SIZE	(DOP2_ERROR_DATA_MASK   5u)	// 0x50B5
#define DOP2_ERROR_WRONG_OBJECT_BUFFER_POINTER	(DOP2_ERROR_DATA_MASK   6u)	// 0x50B6
#define DOP2_ERROR_WRONG_ATTRIBUTE_LIST	(DOP2_ERROR_DATA_MASK   7u)	// 0x50B7
#define DOP2_ERROR_WRONG_ATTRIBUTE_NUM	(DOP2_ERROR_DATA_MASK   8u)	// 0x50B8

```

#define DOP2_ERROR_WRONG_ATTRIBUTE_ID           (DOP2_ERROR_DATA_MASK | 9u) // 0x50B9
#define DOP2_ERROR_WRONG_ARRAY_SIZE            (DOP2_ERROR_DATA_MASK | 10u) // 0x50BA
#define DOP2_ERROR_WRONG_ADDRESS_OFFSET        (DOP2_ERROR_DATA_MASK | 11u) // 0x50BB
#define DOP2_ERROR_WRONG_STRUCT_POINTER        (DOP2_ERROR_DATA_MASK | 12u) // 0x50BC
#define DOP2_ERROR_WRONG_STRUCT_NESTING_LEVEL (DOP2_ERROR_DATA_MASK | 13u) // 0x50BD

#define DOP2_ERROR_MBUS_TX_FAILURE             (DOP2_ERROR_MBUS_MASK | 0u) // 0x50C0
#define DOP2_ERROR_MBUS_RX_BUFFER_OVERFLOW     (DOP2_ERROR_MBUS_MASK | 1u) // 0x50C1
#define DOP2_ERROR_MBUS_RX_NO_BUFFER_IS_FREE   (DOP2_ERROR_MBUS_MASK | 2u) // 0x50C2
#define DOP2_ERROR_MBUS_RX_CHUNK_LOST         (DOP2_ERROR_MBUS_MASK | 3u) // 0x50C3
#define DOP2_ERROR_MBUS_RX_OUT_OF_MEMORY      (DOP2_ERROR_MBUS_MASK | 4u) // 0x50C4
#define DOP2_ERROR_MBUS_RX_CHUNK_DUPLICATE    (DOP2_ERROR_MBUS_MASK | 5u) // 0x50C5

#define DOP2_ERROR_HDR_TX_FAILURE              (DOP2_ERROR_HDR_MASK | 0u) // 0x50D0
#define DOP2_ERROR_HDR_RX_NO_BUFFER_IS_FREE    (DOP2_ERROR_HDR_MASK | 1u) // 0x50D1
#define DOP2_ERROR_HDR_TX_TIMEOUT              (DOP2_ERROR_HDR_MASK | 2u) // 0x50D2
#define DOP2_ERROR_HDR_WRONG_UNIT_ID          (DOP2_ERROR_HDR_MASK | 3u) // 0x50D3
#define DOP2_ERROR_HDR_RX_CHUNK_LOST          (DOP2_ERROR_HDR_MASK | 4u) // 0x50D4
#define DOP2_ERROR_HDR_RX_CHUNK_DUPLICATE     (DOP2_ERROR_HDR_MASK | 5u) // 0x50D5

#define DOP2_ERROR_IC_NO_SPACE_FOR_MESSAGE    (DOP2_ERROR_IC_MASK | 0u) // 0x50E0
#define DOP2_ERROR_OIF_RX_FAILURE              (DOP2_ERROR_OIF_MASK | 0u) // 0x50F0

(DOP2_ERROR_REPORT_MASK | 0u) // 0x5100
(DOP2_ERROR_REPORT_MASK | 1u) // 0x5101

// General error without any further specification.
#define GLOBAL_DOP2_ERROR_UNSPECIFIED 0x7001
// Data structure version is not supported.
#define GLOBAL_DOP2_ERROR_WRONG_STRUCT_VERSION 0x7002
// General error for invalid data, in case the error isn't explicitly specified.
#define GLOBAL_DOP2_ERROR_WRONG_DATA 0x7003
// No callback registered!
#define GLOBAL_DOP2_ERROR_NO_CALLBACK_REGISTERED 0x7004
// Necessary data structures not initialised or application has no own callback registered.
#define GLOBAL_DOP2_ERROR_DATA_STRUCT_NOT_INITIALIZED 0x7005
// Performance currently not possible.
#define GLOBAL_DOP2_ERROR_NOT_ALLOWED_IN_CURRENT_STATE 0x7006
// Performance only allowed in customer service mode.
#define GLOBAL_DOP2_ERROR_ONLY_ALLOWED_IN_SERVICE_MODE 0x7007
// Performance only allowed on access via service interface (current optical interface).
#define GLOBAL_DOP2_ERROR_ONLY_ALLOWED_ON_SERVICE_INTERFACE 0x7008
// Requested XKM Action is unknown to the module.
#define GLOBAL_DOP2_ERROR_XKM_ACTION_UNKNOWN_ACTION 0x7009
// Requested DHCP-Option is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_DHCP 0x700A
// Requested IP-Address is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_IP_ADDRESS 0x700B
// Requested Subnet-Mask is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_SUBNET_MASK 0x700C
// Requested Gateway-Address is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_GW_ADDRESS 0x700D
// Requested DNS-Auto-Option is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_DNS_AUTO 0x700E
// Requested DNS-Server1 is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_DNS_SERVER1 0x700F
// Requested DNS-Server2 is not supported by the module.
#define GLOBAL_DOP2_ERROR_XKM_CONFIG_IP_DNS_SERVER2 0x7010
// Read with wrong parameter: Offset or Length.
#define GLOBAL_DOP2_ERROR_VMA_WRONG_PARAMETER_OFFSET_OR_LENGTH 0x7011
// Write, Data is read only.
#define GLOBAL_DOP2_ERROR_VMA_WRONG_PARAMETER_READ_ONLY 0x7012
// Read with wrong parameter: Virtual Address.
#define GLOBAL_DOP2_ERROR_VMA_WRONG_PARAMETER_VIRTUAL_ADDRESS 0x7013

```

```

// Read, no read parameter received.
#define GLOBAL_DOP2_ERROR_VMA_NO_READ_PARAMETER RECEIVED 0x7014
// Read, parameter received, but data didnt read.
#define GLOBAL_DOP2_ERROR_VMA_READ_PARAMETER RECEIVED BUT DATA DIDNT READ 0x7015
// Read, parameter received from another unit.
#define GLOBAL_DOP2_ERROR_VMA_READ_PARAMETER RECEIVED FROM OTHER UNIT 0x7016
// Read with specific TRS Object, other objects were requested with read parameter.
#define GLOBAL_DOP2_ERROR_VMA_OTHER_OBJECTTYPE WAS REQUESTED WITH READ PARA 0x7017
// Read, last EEPROM-Read is not ready .
#define GLOBAL_DOP2_ERROR_VMA_LAST_EEPROM_READ NOT READY 0x7018
// Mobile Start not active.
#define GLOBAL_DOP2_ERROR_MOBILE_START NOT ACTIVE 0x7019
// User request is not supported.
#define GLOBAL_DOP2_ERROR_USER_REQUEST NOT SUPPORTED 0x701A
// Session Owner not available. Owner is someone else with a higher priority.
#define GLOBAL_DOP2_ERROR_SESSION_OWNER_TAKEN 0x701B
// Not yet initialized, please try again later.
#define GLOBAL_DOP2_ERROR_NOT_YET_INITIALIZED 0x701C
// The request could not be answered.
#define GLOBAL_DOP2_ERROR_XKM_REQUEST_TIMEOUT 0x701D
// Internal Error code for the XKM. The object id is not supported for the unit id.
#define GLOBAL_DOP2_ERROR_XKM_OBJECT_ID NOT ASSOCIATED 0x701E
// The request could not be sent to the device electronic (GS). Device is in OFF mode.
#define GLOBAL_DOP2_ERROR_XKM_DEVICE SWITCHED OFF 0x701F

```

## 4.4

### UserRequest

#### 4.4.1

UserRequests are similar to simple commands. They can be accessed via the resource `.../profProgram/UserRequest`.

For example, programs can be started or stopped with a UserRequest.

```
GET .../profProgram/UserRequest/ HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

The Device replies with

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{
"Available": [1, 103, 104],
"Request": 0
}
```

The field *Available* contains the IDs of all currently available UserRequests.

The field *Request* is only used to send the ID of the UserRequest that shall be executed.

In order to execute the UserRequest Start (ID1) a client can execute

```
PUT /.../profProgram/UserRequest/Request HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json
Content-Length: <decimal number of octets>

{
  "Request": 1
}
```

If the request was successfully, the *Device* replies

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json
Content-Length: <decimal number of octets>

[{"Success": {"Request": 1}}]
```

#### **Exception for UserRequest ID 2 (STOP) in the context of identification:**

If an identification on the appliance is required, then the stop command is not possible.  
The request returns a dop2 error code 0x702D.

## **4.5**

### **Read favourite programs**

---

#### 4.5.1

This service makes possible to read out all favorite programs. It is Read-only. The first REST route gives the list of favorite programs and the second details of the choosen favorite programs.

```
GET /.../profProgram/Favourite>List/ HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

The Device sends the whole list fo favorite programs.

```
{
  "1": {
    "href": "1/"
  },
  "2": {
    "href": "2/"
  },
  "3": {
    "href": "3/"
  }
}
```

```
GET /.../profProgram/Favourite>List/1 HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

The choosen favorite program ID gives detailed informations.

```
{
  "FavouriteId": 1,
  "ProgId": 10,
  "ColourCode": 1,
  "ExtrasWM": {
    "Quick": false,
    "Single": false,
    "WaterPlus": false,
    "RinsingPlus": false,
    "PreWash": false,
    "Soak": false,
    "RinseHold": false,
    "ExtraQuiet": false,
    "SteamSmoothing": false,
    "PreRinse": false,
    "Microfibre": false,
  }
}
```

```

"Gentle": false,
"AllergoWash": false,
"Eco": false,
"Intensive": false,
"StarchHold": false,
"ProgramLocked": false,
"HygienePlus": false
},
"Temperature": 90,
"TemperatureInfo": 0,
"SpinSpeed": 115,
"Locked": false
}

```

## 4.6

### DEPRECATED - DO NOT USE

#### 4.6.1

The resource `/.../profProgram/` is read-only, and it returns information on all programs supported by the *Device*.

```

GET /.../profProgram/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json

```

The *Device* provides a link where the relevant information can be found.

```

HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "list" : { "href" : "/programs" }
}

```

*Note: This is just an example URL. In general, any URL on this Host could be returned (e.g. ‘programs’). An application must follow this URL including all additional attributes.*

The program list can then be requested via

```

GET /.../profProgram/programs HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json

```

The *Device* replies with an array that contains the available programs

```

HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
{
  "ProgramID": 1234,
  "ProgramName": "...."
},
{
  "ProgramID": 5678,
  "ProgramName": "...."
},
...
]

```

#### **Read Details of an individual program**

An individual program can then be requested via

```

GET /.../profProgram/programs/program?ProgramID=<id> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json

```

The *Device* replies with the program information for the ProgramID given in *<id>* parameter.

```

HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {
    "ProgramID": 1234,
    "ProgramName": "....",
    "ProgramType": 1,
    "ProgramCategory": 1,
    "UserLevel": 2,
    "ProgramValidation": true
    "pExtended": {

      "filenameXMI": "1234.XMI"

    }
  }
]

```

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R)	Description
-------------	----------	---------	-------------

Write(W)			
ProgramID	integer	R	ProgramID
ProgramName (optional)	string	R	Program name localized in system language ProgramName: max. 65 Byte (64+\0)
ProgramType	uint8	R	ENUM 0: Default 1: SterilisationProgram 2: SpecialProgram 3: WashProgram 4: DryingProgram 5: ServiceProgram 6: TestProgram
ProgramCategory	uint8	R	ENUM 0: Default 1: StandardProgram 2: CustomProgram
UserLevel (optional)	uint8	R	Application specific ENUM
ProgramValidation (optional)	bool	R	true: Program validated false: Program not validated
pExtended (optional)	object	R	Optional for additional Device specific information
pExtended.fileNameXMI(optional)	String	R	Name of the program file in the device fileNameXMI: max. 64 byte

Table: Fields used in the profProgram service

**Read Details of all programs (optional)**

Details of all programs can be requested via

```
GET /.../profProgram/programs/program?details=1 HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device replies with the program information for all programs.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {
    "ProgramID": 1234,
    "ProgramName": "...",
    "ProgramType": 1,
```

```

    "ProgramCategory": 1,
    "UserLevel": 2,
    "ProgramValidation": true
    "pExtended": {

        "filenameXMI": "1234.XMI"

    },
    {
        "ProgramID": 5678,
        ...
    }
    ...
]

```

### **Delete an individual program (optional)**

An individual program can then be deleted via

```

DELETE /.../ profProgram/programs/program?ProgramID=<id> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json

```

Response

```
HTTP/1.1 204 No Content
```

In this case, the Device deletes all corresponding information for this program!  
In case of Modulo, the corresponding XMI is also deleted.

### **Read program XMI (optional)**

The profFileTransfer service is used to read out an individual programfile.

```

GET /.../profFileTransfer/programs/program?file=<file> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+xmi

```

Response

```
HTTP/1.1 200 OK
X-Content-SHA256: ....
.....binary ....
```

### **Write program XMI (optional)**

The profFileTransfer service is used to write an individual programfile.  
If file already exists, old one will be overwritten.

```

PUT /.../profFileTransfer/programs/program?file=<file> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+xmi
Content-Type: application/vnd.miele.v1+xmi; charset=utf-8

```

X-Content-SHA256: ....  
...binary...

**Response**

HTTP/1.1 204 No Content

**5**

Service: profSensor

**5.1**

The resource `/.../profSensor/` is read-only, and it returns information on dedicated sensors of the *Device*.

```
GET /.../profSensor/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device provides the links where the relevant information can be found.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "list" : { "href": "/.../profDisinfect/sensors "},
    "values": { "href": "/.../profDisinfect/sensors/values" }
}
```

*Note: These are just example URLs. In general, any URL on this Host could be returned. An application must follow this URL including all additional attributes.*

**Read list of Sensors**

The sensor list can then be requested via

```
GET /.../profDisinfect/sensors HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The *Device* replies with an array that contains the available sensors

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
```

```
{
  "ID": "1234",
  "Name": "...",
  "Type": 1,
  "Initial": "TVP",
  "Unit": 4,
  "Color": 3,
  "MinScale": 3,
  "MaxScale": 10
},
{
  ...
}
]
```

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R) Write(W)	Description
ID	string	R	ID of the sensor
Type	uint8	R	ENUM 0: Default 1: Pressure 2: Temperature 3: Flow 4: RPM 5: Digital 6: Time 7: Conductivity
Name	string	R	Localized name of the sensor in system language
Initial	string	R	Abbreviation according to schematic
Unit	uint8	R	Physical Unit ENUM 1: °C 2: °F 3: K 4: mbar 5: kPa 6: psi 7: 1/min 8: min 9: Binary (only for type digital) 10: V 11: A 12: ml 13: mm 14: sec 15: µL 16: µS/cm
Color	uint8	R	Color for graphical representation 0: None (shall not be shown in graphi-

			cal representation) 1: Blue 2: Red 3: Green 4: Yellow
MinScale	double	R	Minimum scale for graphical representation. It is set to 0 if <i>Color</i> == None.
MaxScale	double	R	Maximum scale for graphical representation. It is set to 0 if <i>Color</i> == None.
pExtended	object	R	Optional for additional <i>Device</i> specific information

**Table: Fields used in the profSensorList service****Read list of Sensor values**

The sensor values can then be requested via

```
GET /.../ profDisinfect/sensors/values HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

The *Device* replies with an array that contains the available sensor values

```
HTTP/1.1 200 OK
```

```
Content-Type: application/vnd.miele.v1+json; charset=utf-8
```

```
Content-Length: <decimal number of octets>
```

```
[
```

```
 { "ID": "1234", "Val": 23.5, "UT" : "2014-12-10T07:54:21.423+02:00" },  
 { "ID": "456", "Val": 21.5, "UT" : "2014-12-10T07:54:21.123+02:00" },  
 { "ID": "321", "Val": 61, "UT" : "2014-12-10T07:54:21.223+02:00" },  
 { .... }  
 ]
```

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R) Write(W)	Description
ID	string	R	ID of the sensor
Val	double, except for Type==5: u64	R	Current value
UT	string (timestamp)	R	Update Time ("UT") associated with the value update (not constructing the message). This field is OPTIONAL.

**Table: Fields used in the profSensorValues service**

If the *Type* equals 5: *Digital* the field Value from profSensorValues returns an u64 bitmask. The meaning is:  
u64 [0] := 0 if IO-0 is not set, 1 if IO-0 is set

u64 [1] := 0 if IO-1 is not set, 1 if IO-1 is set  
and so on.

**Due to performance aspects, it is strictly recommended to request individual sensors values (optional).**

#### Request individual sensor value (optional)

An (one) individual sensor value can also be requested via

```
GET /.../ profDisinfect/sensors/values/value?ID=<id> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device replies with the sensor value for the sensor ID given in <id> parameter.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  { "ID": "1234", "Val": 23.5, "UT" : "2014-12-10T07:54:21.423+02:00" }
]
```

#### Request individual sensors values (optional)

More than one individual sensor values can also be requested via

```
GET /.../ profDisinfect/sensors/values?ID=<id>,<id2>,<...> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device replies with the sensor values for the sensor ID given in the list of <id> parameters (separation by ",").

For example *ID=1234,456*, the Device replies with the individual sensor information for two sensors.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  { "ID": "1234", "Val": 23.5, "UT" : "2014-12-10T07:54:21.423+02:00" },
  { "ID": "456", "Val": 21.5, "UT" : "2014-12-10T07:54:21.123+02:00" }
]
```

**Due to performance aspects, it is strictly recommended just to request infrequently as few sensors as needed.**

**6**

Service: profProcessData

**6.1****Version 2****6.1.1**

The resource `/.../profProcessData/` is read-only (except "Language"), and provides information of protocol and graphical data.

```
GET /.../profProcessData/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Device replies:

```
{
  "MachineNo": 1,
  "ProtocolVersion": 2,
  "Time": "2021-03-08T15:43:19",
  "LanguageList": [
    "cs-CZ",
    "da-DK",
    "de-DE",
    "el-GR"
  ],
  "Language": "de-DE",
  "ProcessDataBlock": {
    "href": "ProcessDataBlock/"
  },
  "ProcessDataGraphic": {
    "href": "ProcessDataGraphic/"
  }
}
```

Name	Description
MachineNo	Machine number (if synchronized)
ProtocolVersion	Protocol version (if synchronized)
Time	Current time (if synchronized)
LanguageList	List of supported languages for REST/JSON interface
Language	Currently selected language (can be set by PUT) This language can be overwritten by URL parameter Language, e.g. GET <code>/.../profProcessData/ProcessDataBlock/12345678/EventItemTable/5?Language=en-GB</code>
ProcessDataBlock	Process data block node

**ProcessDataGraphic** | Process data graphic node

**Table: Fields used in the profProcessData**

GET /.../profProcessData/ProcessDataBlock HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

Device replies:

```
{
  "12345678": {
    "href": "12345678/"
  }
}
```

Name	Description
XXXXXXX	<p>Available protocols nodes - charge IDs</p> <p>The JSON representation of the charge ID and also the format of the "chargeID" parameter for the http request is implemented in the following form: XXYYYYY. Here "XX" corresponds to the machine number and "YYYYY" to the charge number.</p> <p>Example: representation: 02012345</p>

**Table: Available protocols nodes**

GET /.../profProcessData/ProcessDataBlock/12345678 HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

Device replies:

```
{
  "Id": "12345678",
  "TimeStart": "2020-01-30T12:41:08",
  "TimeEnd": "2020-01-30T14:53:41",
  "State": 0,
  "Program": {
    "Val": 44,
    "Text": "Hygiene Plus"
  },
  "ProgramType": 0,
  "BlockCount": 3,
  "EventItemCount": 20,
```

```

    "GraphicData": true,
    "ResultSprayArms": {
        "Val": 15,
        "Text": "OK"
    },
    "ResultCleaningPressure": {
        "Val": 15,
        "Text": "OK"
    },
    "ResultA0Value": {
        "Val": 240,
        "Text": "NOK"
    },
    "ResultConductivity": {
        "Val": 15,
        "Text": "OK"
    },
    "ResultOverall": {
        "Val": 240,
        "Text": "NOK"
    },
    "EventItemTable": {
        "href": "EventItemTable/"
    }
}

```

Name	Description
Id	Protocol node id (charge id)
TimeStart	Protocol start timestamp
TimeEnd	Protocol end timestamp
State	State – finished, not finished
Program	Program id, name
ProgramType	Program type
BlockCount	Number of blocks
EventItemCount	Number of event items
GraphicData	True – if graphical data available for the protocol
ResultSprayArms	Result spray arms code and text
ResultCleaningPressure	Result cleaning pressure code and text
ResultA0Value	Result A0 value code and text
ResultConductivity	Result conductivity code and text
ResultOverall	Result overall code and text
EventItemTable	Event item table node

Table: Fields protocol node content

```

GET /.../profProcessData/ProcessDataBlock/12345678/EventItemTable HTTP/1.1
Host: HostNameDev

```

```
Accept: application/vnd.miele.v1+json
```

Device replies:

```
{  
    "0": {  
        "href": "0/"  
    },  
    "1": {  
        "href": "1/"  
    },  
    "2": {  
        "href": "2/"  
    },  
    "3": {  
        "href": "3/"  
    },  
    "4": {  
        "href": "4/"  
    },  
    "5": {  
        "href": "5/"  
    },  
    "6": {  
        "href": "6/"  
    },  
    "7": {  
        "href": "7/"  
    },  
    "8": {  
        "href": "8/"  
    },  
    "9": {  
        "href": "9/"  
    },  
    "10": {  
        "href": "10/"  
    },  
    "11": {  
        "href": "11/"  
    },  
    "12": {  
        "href": "12/"  
    },  
    "13": {  
        "href": "13/"  
    },  
    "14": {  
        "href": "14/"  
    },  
    "15": {  
        "href": "15/"  
    }  
}
```

```

    "href": "15/"
},
"16": {
    "href": "16/"
},
"17": {
    "href": "17/"
},
"18": {
    "href": "18/"
},
"19": {
    "href": "19/"
}
}
```

Name	Description
XX	Available event node id (charge id)

**Table: Available event nodes id**

GET /.../profProcessData/ProcessDataBlock/12345678/EventItemTable/0 HTTP/1.1  
 Host: HostNameDev  
 Accept: application/vnd.miele.v1+json

Device replies:

```
{
    "EventIndex": 0,
    "EventType": 1,
    "EventTime": "12:42:10",
    "EventTextId": {
        "Val": 356,
        "Text": "Blockstart"
    },
    "EventBlockStart": {
        "ProgramBlockType": 0,
        "ProgramBlockNameTextId": {
            "Val": 321,
            "Text": "Block Abpumpen"
        }
    }
}
```

Name	Description
EventIndex	Event index in the events list
EventType	Event type (EventBlockStart)

EventTime	Event timestamp
EventTextId	Event text id and text
EventBlockStart	Event item type, here EventBlockStart
ProgramBlockType	Event program block type
ProgramBlockNameTextId	Event program block name text id

**Table: Event item table content with example of EventBlockStart**

GET /.../profProcessData/ProcessDataGraphic HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

Device replies:

```
{
  "12345678": {
    "href": "12345678/"
  }
}
```

Name	Description
XXXXXXX	Available protocols nodes with graphic data

**Table: Available protocols nodes with graphic data**

GET /.../profProcessData/ProcessDataGraphic/12345678?idx1=0&idx2=5 HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

Device replies:

```
{
  "Id": "12345678",
  "TimeStart": "2020-01-30T12:41:08",
  "TimeEnd": "2020-01-30T14:53:41",
  "State": 0,
  "RecordCountOffset": 0,
  "RecordCountLength": 5,
  "RecordCountTotal": 2700,
  "RecordInterval": 4,
  "RecordTable": {
    "0": {
      "Temperature": 0,
```

```

    "Temperature2": 10000,
    "A0": 0,
    "Conductivity": 0,
    "Pressure": 2700,
    "SetTemperature": 2700,
    "ConductivityLimit": 2700
},
"1": {
    "Temperature": 1,
    "Temperature2": 10001,
    "A0": 5,
    "Conductivity": 10,
    "Pressure": 2699,
    "SetTemperature": 2695,
    "ConductivityLimit": 2690
},
"2": {
    "Temperature": 2,
    "Temperature2": 10002,
    "A0": 10,
    "Conductivity": 20,
    "Pressure": 2698,
    "SetTemperature": 2690,
    "ConductivityLimit": 2680
},
"3": {
    "Temperature": 3,
    "Temperature2": 10003,
    "A0": 15,
    "Conductivity": 30,
    "Pressure": 2697,
    "SetTemperature": 2685,
    "ConductivityLimit": 2670
},
"4": {
    "Temperature": 4,
    "Temperature2": 10004,
    "A0": 20,
    "Conductivity": 40,
    "Pressure": 2696,
    "SetTemperature": 2680,
    "ConductivityLimit": 2660
}
}
}

```

Name	Description
Id	Protocol id
TimeStart	Protocol start timestamp
TimeEnd	Protocol end timestamp

State	Protocol state – finished or not
RecordCountOffset	Record offset in the protocol (set by parameter idx1 in URL)
RecordCountLength	Record size (number of points) (set by parameter idx2 in URL)
RecordCountTotal	Total available number of points in the protocol
RecordInterval	Record interval in seconds
RecordTable	List of requested points

**Table: Graphic data protocol content**

Name	Description
Temperature	Temperature value
Temperature2	Temperature 2 value
A0	A0 value
Conductivity	Conductivity value
Pressure	Pressure value
SetTemperature	Target temperature
ConductivityLimit	Maximal Conductivity

**Table: Record table content**

## 6.2

### Version 1 - deprecated

#### 6.2.1

The resource `/.../profProcessData/` is read-only, and it returns information on all cycles of the *Device*.

```
GET /.../profProcessData/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device provides a link where the relevant information can be found.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "list" : { "href" : "/.../profDisinfect/cycles" }
}
```

*Note: This is just an example URL. In general, any URL on this Host could be returned (e.g. only 'cycles'). An application must follow this URL including all additional attributes.*

The cycle list can then be requested via

```
GET /.../profDisinfect/cycles HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The *Device* replies with an array that contains the available cycles

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
    {"CycleNo": 1234, "ProgramID": 1001, "pStartTime": "2014-10-22T13:48:00",
     "pEndTime": "2014-10-22T14:50:00", "ProcessResult": 1},
    {"CycleNo": 5678, "ProgramID": 1001, "pStartTime": "2014-10-22T15:48:00",
     "pEndTime": "2014-10-22T16:50:00", "ProcessResult": 2}
]
```

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R) Write(W)	Description
CycleNo	integer	R	No. of the cycle
ProgramID	uint16	R	ProgramID
pStartTime	string	R	The timestamp of the program start
pEndTime	string	R	The timestamp of the program end (OPTIONAL)
ProcessResult	uint8	R	ENUM 0: Default 1: Successful 2: NOT Successful (FAILED)
pExtended	object	R	Optional for additional <i>Device</i> specific information

**Table: Fields used in the profCycleList service**

An individual cycle be requested via

```
GET /.../profDisinfect/cycles/cycle?CycleNo=<cycleno> HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The *Device* replies with the individual information for a cycle given in <cycleno> parameter.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
```

```
{
  "CycleNo": 1234,
  ...
}
```

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R) Write(W)	Description
CycleNo	integer	R	No. of the cycle
<further fields>	<any legal>		<b>The data is device- and application specific and must be defined in the corresponding project.</b>

If a new device is developed according to this specification, the project team shall provide its proposed solution for review. It will be reviewed from the persons named in chapter 1.2. After it is approved, it will be appended to this specification. This process ensures compatibility to the involved system blocks (Miele Cloud Service, etc.).

## 7

### Service: profNotification

#### 7.1

The resource `/.../profNotification/` is read-only, and it returns all notifications from the Device which have to be acknowledged by an authorized user (but currently haven't been so far).

```
GET /.../profNotification/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device provides a link where the relevant information can be found.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "list" : { "href": ".../profDisinfect/notifications" }
}
```

*Note: This is just an example URL. In general, any URL on this Host could be returned. An application must follow this URL including all additional attributes.*

The notifications can then be requested via

```
GET /.../profDisinfect/notifications[?MinTime=<timestamp>] HTTP/1.1
```

Host: HostNameDev  
Accept: application/vnd.miele.v1+json

The optional parameter *MinTime* can be used (extends the URL parameter list) to set a timestamp since when the notification list shall be provided, e.g. "&MinTime=2014-10-20T07:54:21.43+02:00". If *MinTime* is missing, the entire notification list is provided.

The *Device* replies with an array that contains the notification entries. The maximum number of notifications returned is 500.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {
    "LastOccurrence": "2014-10-20T07:54:21.43+02:00",
    "Code": 2,
    "Category": 1,
    "ShortText": "Timeout Kuehlwasserregelung",
    "LongText": "...."
  },
  {
    "LastOccurrence": "2014-10-20T03:54:21.48+02:00",
    "Code": 5,
    "Category": 2,
    "ShortText": ".....",
    "LongText": "....."
  },
  ...
]
```

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R) Write(W)	Description
LastOccurrence	string	R	Timestamp of the notification with digits (milliseconds). Digits are recommended but OPTIONAL
Code	Integer	R	Code of the notification according to the standardized error list
Category	Integer	R	Notification category ENUM 1: Warning 2: Error 3: CriticalError 4: FatalError 5: EmergencyStop
ShortText	string	R	Text describing the notification (short) OPTIONAL
LongText	string	R	Text describing the Notification

			(long) OPTIONAL
pExtended	object	R	Optional for additional <i>Device</i> specific information

**Table: Fields used in the profNotification service**

## 8

Service: profProcessStatistics

### 8.1

The resource `/.../profProcessStatistics/` is read-only, and it returns statistical information about the *Device*.

GET `/.../profProcessStatistics/` HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

The *Device* provides the links where the relevant informations can be found.

HTTP/1.1 200 OK

Content-Type: application/vnd.miele.v1+json; charset=utf-8

Content-Length: <decimal number of octets>

{

  “list”: { “href”: “/.../profDisinfect/processStatistics”},  
  “error”: { “href”: “/.../profDisinfect/processStatistics/errors”},  
  “info”: { “href”: “/.../profDisinfect/processStatisticsinfos”}

}

*Note: This is just an example URL. In general, any URL on this Host could be returned. An application must follow this URL including all additional attributes.*

#### Read list of statistical information

The main statistical information can be requested via the “list”-tagged URL. The list contains an array with statistical information per program supported by a *Device*.

GET `/.../profDisinfect/processStatistics` HTTP/1.1

Host: HostNameDev

Accept: application/vnd.miele.v1+json

The *Device* provides a list with all supported programs.

HTTP/1.1 200 OK

Content-Type: application/vnd.miele.v1+json; charset=utf-8

Content-Length: <decimal number of octets>

[

```
{
    "ProgramID": 123,
    "Count": [4, 4],
    "CycleTime" : [100, 120, 100]
},
{
    "ProgramID": 456,
    "Count": [10, 7],
    "CycleTime" : [200, 220, 210]
},
...
]
```

The following table describes the fields that are returned by this service call.

<FieldName>	Datatype	Read(R) Write(W)	Description
ProgramID	integer	R	ProgramID
Count	array<integer>	R	A JSON array is an ordered sequence of zero or more values. 1st Pos: Total number of runs for this program, if it is not used/invalid it shall be set to -1. 2nd Pos: Number of runs for this program since last reset, if it is not used/invalid it shall be set to -1.
CycleTime	array<integer>	R	A JSON array is an ordered sequence of zero or more values. 1st Pos: Minimum cycle time of the program in minutes. This value is optional, if it is not used it shall be set to -1. 2nd Pos: Maximum cycle time of the program in minutes. This value is optional, if it is not used it shall be set to -1. 3rd Pos: Average cycle time of the program in minutes, 0 in default.
pExtended	object	R	Optional for additional Device specific information

Table: Fields used in the profProcessStatistics service

#### Read list of statistical error information

The list of errors can be requested via the "error"-tagged URL. The list contains an array with errors per program supported by a *Device*.

```
GET /.../profDisinfect/processStatistics/errors HTTP/1.1
```

Host: HostNameDev  
Accept: application/vnd.miele.v1+json

The *Device* provides a list with information about which errors occurred in which program for all supported programs by a *Device*.

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {
    "ProgramID": 123,
    "Errors": { [5, 3, 3], [17, 23, 1], ... }
  },
  {
    "ProgramID": 456,
    "Errors": { [2, 5, 3], ... }
  },
  ...
]
```

The following table describes the fields that are returned by this service call.

<FieldName>	Datatype	Read(R) Write(W)	Description
ProgramID	integer	R	ProgramID
Errors	list of array<integer>	R	A json array is an ordered sequence of zero or more values. 1st Pos: error code 2nd Pos: Total number of error occurrences, 0 in default 3rd Pos: Number of error occurrences since last reset, 0 in default

Table: Fields used in the profProcessStatistics service

#### Read global statistical information

The global statistical information can be requested via the "info"-tagged URL. This Resource contains additional information related to the /.../profProcessStatistics / Service.

GET /.../profDisinfect/processStatistics/infos HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json

The *Device* provides a list with information about which errors occurred in which program for all supported programs by a *Device*.

HTTP/1.1 200 OK

Content-Type: application/vnd.miele.v1+json; charset=utf-8  
 Content-Length: <decimal number of octets>

```
{
  "FabNumber": "12345678",
  "OperatingMinutesDevice": 15200,
  "LastMaintenance": "2014-11-03",
  "LastPerformanceTest": "2014-12-05",
  "LastResetProcessStatistics": "2014-10-20T07:54:21"
}
```

The following table describes the fields that are returned by this service call.

<FieldName>	Datatype	Read(R) Write(W)	Description
FabNumber	string	R	Fabrication number, it is identical to <i>Ident</i> service
OperatingMinutesDevice	integer	R	Total operating minutes of the <i>Device</i>
LastMaintenance	string	R	Date of the last maintenance e.g. "2014-10-31", identical to the value returned in /Devices/<id>/State/pExtended
LastPerformanceTest	string	R	Date of the last performance test e.g. "2014-12-11", identical to the value returned in /Devices/<id>/State/pExtended
LastResetProcessStatistics	string (timestamp)	R	Shows when the error list has been deleted the last time, e.g. "2014-12-10T07:54:21". LastReset is empty string "", if never resetted.
pExtended	object	R	Optional for additional <i>Device</i> specific information

Table: Fields used in the profProcessStatistics service

### DELETE profProcessStatistics

Some statistical information can be DELETED (reset to 0) via

```
DELETE /.../profDisinfect/processStatistics HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The Device sets

- the number of runs for programs since last reset to 0 in the property Count
- the number of error occurrences since last reset to 0 in the property Errors
- NOT the average cycle time of the program in the property CycleTime (no change after DELETE)

Finally, it replies with

HTTP/1.1 204 No Content

## 9

Service: profDisinfect

### 9.1

This service is specified in [REST API description for Miele PCS].

## 10

Service: REST-based Eventing and Subscriptions

### 10.1

The *Eventing and Subscriptions* service can be offered by a Host for improved performance and reduced latency in local networks.

This service is optional for Miele Prof. IP *Hosts*. It offers a subscription mechanism for all REST resources that are located on the *Host*.

If the service is available, the resource **/Subscriptions/** is located under **<object:Root>**.

### 10.2

#### General Functionality

##### 10.2.1

The subscription and eventing functionality must be configured before it can be used.

##### Configuration and Setup

The service profFileTransfer is used to upload a Root-CA certificate (public part) that shall be used to the validate the event sink. For example, if *Host A* shall send events to *Host B*, *Host A* must have a valid Root-CA certificate in order to validate *Host B* in case an event is fired.

The <unique> name for Root-CA certificates is **eventingCA**, and the filename is **RootCA.der**. Description regarding the upload are given in chapter 11.

##### Add a Subscription

The subscriber (the client that adds the subscription to the *Host*) must be able to access the resource requested. Therefore, it must have a valid session and the corresponding user rights to access the resource.

*Note: The subscriber CAN also be the event receiver, but it can also be another device (e.g. a commissioning client that is used to setup the network).*

The subscriber adds a subscription to the Host according to chapter 8.5.

1. Resource is the requested resource (e.g. .../Devices/.../State)
2. Callback is the URL to which the event is sent, the address must be reachable within the local network (e.g. https://192.168.10.150/Callback).

#### **Transmission of an Event**

If an event is sent, a HTTP POST is used according to chapter 8.8.

Authentication is performed via TLS.

1. The event sender checks the certificate provided from the event receiver (sink) against the RootCA.der that has been uploaded via profFileTransfer (eventingCA).
2. The event receiver checks the certificate provided from the event sender.

Only, if both parties can validate each other, the event is sent.

#### **Failure Handling**

As too many or erroneous subscriptions can cause unnecessary traffic load all subscriptions must be periodically refreshed. Details regarding this mechanism are given in chapter 8.11

## **10.3**

### **Get Subscription List**

#### **10.3.1**

The links to the actual subscriptions <object:SubscriptionList> are returned, if a GET request is performed on the URL given in <object:SubscriptionListLink>.href (which equals "Subscriptions/").

URL	http://<host name>/Subscriptions/
HTTP Request	GET /Subscriptions/ HTTP/1.1 Host: <host name> Accept: application/vnd.miele.v1+json
HTTP Request Payload	empty
HTTP Response Header	HTTP/1.1 200 OK Content-Type: application/vnd.miele.v1+json; charset=utf-8 Content-Length: <decimal number of octets>

HTTP Response Payload := <i>&lt;object:SubscriptionList&gt;</i>	{ < <i>id:Subscription</i> >:< <i>object:Subscription</i> >, < <i>id:Subscription</i> >:< <i>object:Subscription</i> >, ... }
---	---

### 10.3.2

#### **<*id:Subscription*>**

##### 10.3.2.1

The *<id:Subscription>* field name contains the ID of a single subscription. The data type is string, whereas the string contains a number that is within the range of 1 and 255:

*<id:Subscription>* := “<number between 1 and 255>”

(Example: “1”)

### 10.3.3

#### **<*object:Subscription*>**

##### 10.3.3.1

The *<object:Subscription>* contains information about a single subscription.

*<object:Subscription>* :=  
  
{  
  *<id:SubscriptionFieldName>:<id:SubscriptionFieldValue>*,  
  *<id:SubscriptionFieldName>:<id:SubscriptionFieldValue>*,  
  ...  
}

It is also valid to not return the *<object:Subscription>* at this place but to return a link to it. In this case, the *<object:Subscription>* is not expanded. This can be used in order to reduce the size of the HTTP body.

### 10.3.4

#### **<*object:Subscription*> properties**

### 10.3.4.1

<id:SubscriptionFieldName>	Datatype	Read(R) Write(W)	Description
Resource	string	R/W	Link of the subscribed resource
Callback	string	R/W	Callback URL

Table: Fields used in the <object:Subscription>

### 10.3.4.2

#### <object.Subscription>.Resource

##### 10.3.4.2.1

The *Resource* field contains the ASCII encoded link to the subscribed resource on the *Host* without the <host name>. The data type is string. This property of the <object:Subscription> is read- and writeable and can thus be modified.

Example 1: Subscription to the State service of a device with the ID “123456789101”

“Resource”: “/Devices/123456789101/State/”

Example 2: Subscription to the State service of a device with the ID “123456789101” and the root path is located under “/Rest”.

“Resource”: “/Rest/Devices/123456789101/State/”

### 10.3.4.3

#### <object.Subscription>.Callback

##### 10.3.4.3.1

The *Callback* field contains the ASCII encoded callback URL for the subscribed resource. The data type is string, whereas the formatting is <attribute:url>. This property of the <object:Subscription> is read- and writeable and can thus be modified.

Example: Callback to “/callback” on *Host* “test.local.” with port 80.

“Callback”: “http://test.local.:80/callback/”

## 10.4

### Get Single Subscription

#### 10.4.1

A single subscription object `<object:Subscription>` of the `<id:Subscription>` is returned, if a GET request is performed on the URL `http://<host name>/Subscriptions/<id:subscription>/`.

URL	<code>http://&lt;host name&gt;/Subscriptions/&lt;id:subscription&gt;/</code>
HTTP Request	GET /Subscriptions/<id:subscription>/ HTTP/1.1 Host: <code>&lt;host name&gt;</code> Accept: application/vnd.miele.v1+json
HTTP Request Pay-load	<i>empty</i>
HTTP Response Hea- der	HTTP/1.1 200 OK Content-Type: application/vnd.miele.v1+json; charset=utf-8 Content-Length: <code>&lt;decimal number of octets&gt;</code>
HTTP Response Pay- load := <code>&lt;object:Subscription&gt;</code>	{ <code>&lt;id:SubscriptionFieldName&gt;: &lt;id:SubscriptionFieldValue&gt;,</code> <code>&lt;id:SubscriptionFieldName&gt;: &lt;id:SubscriptionFieldValue&gt;,</code> ... }

#### 10.4.2

### GET single field/value property from `<object:Subscription>`

#### 10.4.2.1

Instead of performing a GET in order to receive the entire `<object:Subscription>`, it is also possible to receive single fields/properties of the object.

Example: If a GET is performed on

`http://<host name>/Subscriptions/<id:subscription>/Resource/`

the `Resource` field is returned

{

```
        "Resource": "/Devices/123456789101/State/"  
    }
```

## 10.5

### Add/Refresh Subscription

#### 10.5.1

A subscription is added/refreshed, if a POST request with an *<object:Subscription>* is performed on the URL given in *<object:SubscriptionListLink>.href* (which equals "Subscriptions/").

URL	<a href="http://&lt;host name&gt;/Subscriptions/">http://&lt;host name&gt;/Subscriptions/</a>
HTTP Request	POST /Subscriptions/ HTTP/1.1 Host: <host name> Content-Type: application/vnd.miele.v1+json; charset=utf-8 Content-Length: <decimal number of octets>
HTTP Request Pay-load := <i>&lt;object:Subscription&gt;</i>	{ <id:SubscriptionFieldName>: <id:SubscriptionFieldValue>, <id:SubscriptionFieldName>: <id:SubscriptionFieldValue>, ... }
HTTP Response Header	HTTP/1.1 201 Created Location: http://<host name>:<port>/Subscriptions/<id:Subscription>/
HTTP Response Pay-load	<i>empty</i>

The field *<object:Subscription>.Resource* equals the resource from which the events shall be received. A subscription to a certain resource triggers an event in case the resource changes.

The *Host* checks, if an identical subscription exists after reception of the POST request. If this is a new subscription, the server performs the following steps:

1. Assign an ID to the subscription.
2. Add the subscription to "/Subscriptions"
3. Respond with a "201 Created" and a Location field that contains the absolute link to the subscription

If, the subscription already exists, the *Host* simply returns a "201 Created". The Location field contains the link to the existing subscription. This is used to refresh a subscription.

If, the subscription fails, the *Host* responds with a “400 Bad Request”.

***All subscriptions must be saved in persistent memory!  
Thus, they still exist, if the device is shut down or if a reset is performed.***

***It must only accept subscriptions for resources that are accessible via the corresponding user level as described in chapter 6.  
Every Host must save the access rights that were applied to add the subscription.***

## 10.6

### Delete Subscription

#### 10.6.1

A subscription is deleted, if a DELETE request is performed on the URL “`http://<host name>/Subscriptions/<id:Subscription>/`”.

URL	<code>http://&lt;host name&gt;/Subscriptions/&lt;id:Subscription&gt;/</code>
HTTP Request	<code>DELETE /Subscriptions/&lt;id:Subscription&gt;/</code> HTTP/1.1 Host: <i>&lt;host name&gt;</i>
HTTP Request Payload	<i>empty</i>
HTTP Response Header	HTTP/1.1 204 No Content
HTTP Response Payload	<i>empty</i>

The *Host* checks, if the subscription exists after reception of the DELETE request. If this is valid subscription and the issuer of the request is allowed to DELETE the subscription, the server performs the following steps:

1. Delete the subscription
2. Remove the subscription from “/Subscriptions”
3. Respond with a “204 No Content”

If, the subscription does not exist, the server simply returns a “404 Not Found”.

#### 10.6.2

## Firmware Update

After a firmware update all the subscriptions will be deleted. The default values for structure of the subscriptions will be saved in a file. After a reboot the subscriptions should be added automatically again.

## 10.7

### Modify Subscription

#### 10.7.1

Subscriptions cannot be modified! They must be deleted and registered again in order to modify them.

## 10.8

### Eventing

#### 10.8.1

An event is transmitted from a host, if a resource changes its value and if there is a subscription for this resource. The POST request is performed to `<object:Subscription>.Callback`, and it is sent in plain HTTP.

It contains the names of the attributes that have been changed. The event receiver can then poll the corresponding resource in case the change is relevant.

URL	<code>&lt;object:Subscription&gt;.Callback</code>
HTTP Request	POST / <code>&lt;object:Subscription&gt;.Callback.&lt;path&gt;</code> / HTTP/1.1 Host: <code>&lt;object:Subscription&gt;.Callback.&lt;host name&gt;</code> Content-Type: application/vnd.miele.v1+json; charset=utf-8 Content-Length: <code>&lt;decimal number of octets&gt;</code>
HTTP Request Payload := <code>&lt;object:Event&gt;</code>	{ <code>&lt;id:EventFieldName&gt;: &lt;id:EventFieldValue&gt;,</code> <code>&lt;id:EventFieldName&gt;: &lt;id:EventFieldValue &gt;,</code> <code>&lt;id:EventFieldName&gt;: &lt;id:EventFieldValue &gt;,</code> ... }
HTTP Response Header	HTTP/1.1 204 No Content
HTTP Response Payload	<i>empty</i>

If a 404 is received as a response on a callback URL, the subscription is deleted from the *Host*, as it is assumed that the receiving application is gone.

All client applications MUST periodically refresh all of their subscriptions.

## 10.8.2

### <object:Event>

#### 10.8.2.1

The <*object:Event*> contains the event payload.

<*object:Event*> :=

```
{  
  <id:EventFieldName>: <id:EventFieldValue>,  
  <id:EventFieldName>: <id:EventFieldValue>,  
  <id:EventFieldName>: <id:EventFieldValue>,  
  ...  
}
```

## 10.8.3

### <object:Event> properties

#### 10.8.3.1

<id:EventFieldName>	Datatype	Description
Host	string	Name of the <i>Host</i> that triggers the event.
Resource	string	Link of the subscribed resource
Content	object	Object that contains the attributes that have been changed

Table 1: Fields used in the <*object:Event*>

#### 10.8.3.2

### <*object:Event*.Host

#### 10.8.3.2.1

The *Host* field contains the ASCII encoded *<host name>* of the host that triggers the event. The data type is string.

#### 10.8.3.3

##### *<object:Event>.Resource*

#### 10.8.3.3.1

The *Resource* field contains the ASCII encoded link to the subscribed resource for which the *<object:Event>* is generated. The content of this field equals the *<object:Subscription>.Resource* field of the *<object:Subscription>* that caused the event.

Example: Event caused by a state change of a device with the ID “123456789101”

“Resource”: “/Devices/123456789101/State/”

## 10.9

### DELETE Callback

#### 10.9.1

If a *Host* disables its corresponding application/service is disabled, it performs a DELETE request on all affected subscription callbacks.

URL	<a href="http://&lt;host name&gt;/.../&lt;object:Subscription&gt;.Callback/">http://&lt;host name&gt;/.../&lt;object:Subscription&gt;.Callback/</a>
HTTP Request	DELETE /.../<object:Subscription>.Callback/ HTTP/1.1 Host: <host name>
HTTP Request Payload	<i>empty</i>
HTTP Response Header	HTTP/1.1 204 No Content
HTTP Response Payload	<i>empty</i>

The *Host* checks, if the callback exists after reception of the DELETE request. If this is valid callback and the issuer of the request is allowed to DELETE the callback, the server performs the following steps:

1. Inform the affected devices/services
2. Delete the callback

If, the callback does not exist, the server simply returns a “404 Not Found”.

If, the issuer of the request is not allowed to perform the request, the server responds with a “403 Forbidden”.

## 10.10

### Examples

#### 10.10.1

This section shows several examples of subscriptions and eventing (*Authorization* header is missing in these examples).

#### 10.10.2

##### Subscription to the events of the State Service

###### 10.10.2.1

A Device with the ID “987654321012” on the *Host* name “HostNameClient” wants to subscribe to the events of the State service of a device with the ID “123456789101”. This device resides on the *Host* with the name “HostNameDev”. Therefore it performs a POST to the corresponding subscription URL that has been read from the <object:SubscriptionListLink>.

```
POST /Subscriptions/ HTTP/1.1
Host: HostNameDev
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "Resource": "/Devices/123456789101/State/",
  "Callback": "https://HostNameClient:80/Devices/987654321012/EventSink /"
}
```

The “HostNameDev” successfully creates the subscription (in this case this is the first subscription). Then, it replies to the client:

```
HTTP/1.1 201 Created
```

Location: <https://HostNameDev:80/Subscriptions/1/>

### 10.10.3

#### Modification of a Subscription

##### 10.10.3.1

Subscriptions cannot be modified! They must be deleted and set up again in order to modify them.

### 10.10.4

#### Get all Subscriptions

##### 10.10.4.1

The entire subscription list (in this case with only one subscription) is returned if a GET is issued to `/Subscriptions/`. In this case, the *Host* replies:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "1": {
    "Resource": "/Devices/123456789101/State/",
    "Callback": "https://HostNameClient:80/Devices/987654321012/EventSink/"
  }
}
```

For an embedded module the size of the response can be reduced:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "1": {"href": "1/"}
}
```

### 10.10.5

## Get single Subscription

### 10.10.5.1

The subscription from chapter 6.8 can be received by sending a GET to “/Subscriptions/1/”:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "Resource": "/Devices/123456789101/State/",
  "Callback": "https://HostNameClient:80/Devices/987654321012/EventSink/"
}
```

### 10.10.6

#### Transmission of an Event

##### 10.10.6.1

The state of the *Device* changes and triggers an event (in this case the *Status* and *ProgramID* are changed and caused the event) . The event is transmitted from the host to the callback given by the client:

```
POST /Devices/987654321012/EventSink/ HTTP/1.1
Host: HostNameClient
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "Host": "HostNameDev",
  "Resource": "/Devices/123456789101/State/",
  "Content": {"State": {"Status": "true", "ProgramID": "true", "ProgramPhase": "false",
....}}
}
```

The client receives this information and replies:

```
HTTP/1.1 204 No Content
```

### 10.10.7

#### Delete the Subscription

### 10.10.7.1

The client deletes the subscription:

```
DELETE /Subscriptions/1/ HTTP/1.1  
Host: HostNameDev
```

The *Host* replies:

```
HTTP/1.1 204 No Content
```

### 10.10.8

#### Stop Application

### 10.10.8.1

If the *Host* leaves networks, or if an *Device/service* is removed/stopped, it performs a DELETE on the relevant callbacks of the affected subscriptions:

```
DELETE /Devices/987654321012/EventSink/ HTTP/1.1  
Host: HostNameClient
```

The client replies:

```
HTTP/1.1 204 No Content
```

Then, the client informs the affected applications.

### 10.11

#### Transmission Reliability / Failure

### 10.11.1

If the transmission of an event was not successful due to a TCP timeout or due to an unknown *Host* name, the event payload is discarded. The failure and the reason are reported to the invoking service or application, which may decide to try it again.

The mandatory services that are described within this part of the specification simply discard the payload, and they do not try to send the event again.

**If a 404 (*Not Existing*) is received in response to an event that has been transmitted successfully to a callback, it is assumed that the client application does not exist anymore on the host. Therefore, the subscription is deleted automatically after the status 404 has been received.**

**Furthermore, all subscriptions must be periodically refreshed. A subscription can be refreshed by adding the same subscription again. If a subscription has not been refreshed every 30min, the subscription is deleted automatically on the Host. Therefore, a subscriber MUST refresh all subscriptions at least every 9min.**

## 11

### Service: LAN IPv4 Configuration

#### 11.1

The IP configuration of a *Host* can be changed via the resource /LAN/. This service is not supported by Miele PCS devices.

The fields *IP*, *Subnet*, *Gateway*, *DNS1* and *DNS2* can be used to configure the IPv4 address of the *Host*. For example, if the user wants to configure the IP 192.168.1.12, subnet mask 255.255.255.0 and (IP-) gateway 192.168.1, he must also add DNS servers. The fields *DNS1* and *DNS2* are used to configure DNS servers.

```
PUT /LAN/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "IP": "192.168.1.12",
    "Subnet": "255.255.255.0",
    "Gateway": "192.168.1.1",
    "DNS1": "10.20.30.40",
    "DNS2": "13.12.14.2"
}
```

Furthermore, it is possible to add own DNS servers without setting the IP address.

For example

```
PUT /LAN/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
```

```
"DNS1": "10.20.30.40",
"DNS2": "13.12.14.2"
}
```

If this request is successful, the *Host* replies

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"DNS1": "10.20.30.40"}},
  {"Success": {"DNS2": "13.12.14.2"}}
]
```

## 11.2

### Read current configuration (GET /LAN/)

#### 11.2.1

It is also possible to read/modify the current configuration with a PUT, GET on /LAN/.

## 12

### Websocket-based Eventing (WAMP)

#### 12.1

Miele PCS provides the WAMP protocol [draft-oberstet-hybi-tavendo-wamp-02]. WAMP is a standardized (IANA) extension of the web socket protocol and realizes a way for clients to subscribe for a resource (in meaning of REST) and publishes events to the client on a change (publish/subscribe). RPC calls are also provided.

Supporting WAMP is optional in addition to REST. To reduce (dramatically) the load, we recommend WAMP instead of polling resources for PCS-based systems.

## 13

### Service: profFileTransfer

## 13.1

### Version 3

#### 13.1.1

The resource `/.../profFileTransfer/` is used to read/send/update/delete files on a *Device*.

#### 13.1.2

##### Read File Resource

###### 13.1.2.1

The available file resources can be read via the resource `/.../profFileTransfer/`

```
GET /.../profFileTransfer HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to DOP2 units that offer files that can be read/written.

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "Version": 3,
    "18": {"href": "18/"},
    "15": {"href": "15/"}
}
```

#### 13.1.2.2

##### Read File List

###### 13.1.2.2.1

The available files list of a unit can be read partially via the resource `/.../FileTransfer/{Unit}[?idx1=...]`

The optional parameter `idx1` can be set to the index within the file list.

```
GET /.../profFileTransfer/15?idx1=0 HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to all accessible files

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "0": {"ID": 0, "Name": "progfile_0.prog", "Permission": 3, "Size": 1566, "Hash": "E8D...", "Description": "Pr 00"}, 
    "1": {"ID": 1, "Name": "progfile_1.prog", "Permission": 3, "Size": 3974, "Hash": "482...", "Description": "Pr 01"}, 
    "2": {"ID": 2, "Name": "progfile_2.prog", "Permission": 2, "Size": 659, "Hash": "B3CB...", "Description": "Pr 02"}, 
    "3": {"ID": 3, "Name": "progfile_3.prog", "Permission": 1, "Size": 1391, "Hash": "5719...", "Description": "Pr 03"}, 
    "4": {"ID": 4, "Name": "progfile_4.prog", "Permission": 3, "Size": 2387, "Hash": "91BA...", "Description": "Pr 04"}, 
    "HasNext": 5
}
```

The field `permission` contains information about the accessibility of a file

- 0: Not accessible
- 1: Read-Only
- 2: Write-Only
- 3: Read/Write
- 4: Read/Delete
- 5: Write/Delete
- 6: Read/Write/Delete
- 7..255: Reserved

"`HasNext`" provides the next accessible file id for the following list sequence. The `nextpartial` list can be requested from the *Device* unit using this id. If no further files are available in the file list, "`HasNext`" shall be -1

Then, `idx1` can be set to the next value in order to read the next partial list:

```
GET /.../profFileTransfer/15?idx1=5 HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to all accessible files

```
HTTP/1.1 200 OK
Content-Type: ...
```

Content-Length: <decimal number of octets>

```
{
"5":{"ID":5, "Name": "progfile_5.prog", "Permission": 3,"Size":2777, "Hash": "E8D...", "Description":"Pr 05"}, 
"6":{"ID":6, "Name": "progfile_6.prog", "Permission": 3,"Size":3291, "Hash": "482...", "Description":"Pr 06"}, 
"7":{"ID":7, "Name": "progfile_7.prog", "Permission": 3,"Size":1407, "Hash": "B3CB...", "Description":"Pr 07"}, 
"8":{"ID":8, "Name": "progfile_8.prog", "Permission": 3,"Size":1391, "Hash": "5719...", "Description":"Pr 08"}, 
"9":{"ID":9, "Name": "conffile_0.conf", "Permission": 3,"Size":2387, "Hash": "91BA...", "Description":"Cfg 0"}}, 
"HasNext": -1
}
```

#### If the place for a file is reserved, but no file is available (e.g. index 19)

```
GET /.../profFileTransfer/15?idx1=19 HTTP/1.1
Host: HostNameDev
Accept: ....
```

HTTP/1.1 200 OK

Content-Type: ...

Content-Length: <decimal number of octets>

```
{
"19":{"ID":19, "Name": "", "Size":0, "Permission": 3, "Hash": "0000....", "Description":""}, 
"HasNext": -1
}
```

#### If the place for a file is not available (not existing)

```
GET /.../profFileTransfer/15?idx1=30 HTTP/1.1
Host: HostNameDev
Accept: ....
```

HTTP/1.1 404 Not Found

### 13.1.3

## Read File Sequence

### 13.1.3.1

Files can be read via single HTTP call

```
GET /.../profFileTransfer/15/progfile_1.prog HTTP/1.1  
Host: HostNameDev  
Accept: application/octet-stream
```

If access is possible (according to the user level), the *Device* returns the file as transfer encoding chunked

```
HTTP/1.1 200 OK  
Content-Type: application/octet-stream  
Content-Length: 12345  
  
<file content in binary format>
```

### 13.1.4

## Write File Sequence

### 13.1.4.1

Files can be written via a single HTTP call

```
PUT /.../profFileTransfer/15/progfile_1.prog HTTP/1.1  
Host: HostNameDev  
Content-Type: application/octet-stream  
Content-Length: <length of byte>  
Accept: ....  
[x-signature : ASCII[512]]  
<file content in binary format>
```

If access is possible (according to the user level), the *Device* returns after the file has been received

```
HTTP/1.1 204 No Content
```

---

### 13.1.5

## Delete File Sequence

### 13.1.5.1

Files can be deleted via a single HTTP call

```
DELETE /.../profFileTransfer/15/progfile_1.prog HTTP/1.1
Host: HostNameDev
Accept: application/octet-stream
```

If access is possible (according to the user level), the *Device* returns after the file has been deleted

```
HTTP/1.1 204 No Content
```

## 13.2

### DEPRECATED DO NOT USE- Version 1

#### 13.2.1

**WARNING: THIS VERSION IS DEPRECATED! DO NOT USE IT ANYMORE! IT WILL BE REMOVED FROM THE SPECIFICATION SOON!**

The resource /.../profFileTransfer/ is used to read/send/update/delete files on a *Device*.

```
GET /.../profFileTransfer HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to all [accessible](#) file types.

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "logfile" : { "href": "/..../profFileTransfer/logfiles" },
    "configuration" : { "href": "/..../profFileTransfer/configurations" },
    "update" : { "href": "/..../profFileTransfer/updates" },
    "documentation" : { "href": "/..../profFileTransfer/documentation" }
    "program" : { "href": "/..../profFileTransfer/program" }
}
```

*Note: This is just an example URL. In general, any URL on this Host could be returned. An application must follow this URL including all additional attributes.*

The following table describes the above structure "<unique name>" : { "href" : "<url>" }.

Structure Part	Description
<unique name>	Any accessible <b>file type</b> (even if there is none file for this type existing). Depending on the implementation, the list of file types may vary. Following file types are specified, additional ones have to be added here: <ul style="list-style-type: none"> <li>• "logfile" (in the meaning of the Service <i>profNotification</i>)</li> <li>• "configuration"</li> <li>• "update" (image)</li> <li>• "documentation" (manuals)</li> <li>• "processData" (in the meaning of the Service <i>profProcessData</i>)</li> <li>• "language" (information for localization)</li> <li>• "processingProtocol" (Process results, etc.)</li> <li>• <b>"program" (in the meaning of the Service <i>profProgram</i>)</b></li> <li>• "eventingCA" (public Root-CA certificate used to validate event receiver)</li> </ul>
<url>	A link to the list of files for a specific file type

#### Read file list for a file type

```
GET /.../profFileTransfer/logfiles HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: ....
```

The *Device* provides a list with all files for a file type (here "logfile"-tagged URL).

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
[
  { "File": "filename.pdf", "ModifiedTime" : "2014-12-10T07:54:21+02:00" },
  { "File": "file2.txt", "ModifiedTime" : "2014-11-11T09:56:22+02:00" },
  ...
]
```

*Note:*

*the response may contain different file types (here: pdf, txt).*

The following table describes the fields that are returned by this service

<FieldName>	Datatype	Read(R) Write(W)	Description
File	string	R	File name of the file
ModifiedTime	string (timestamp)	R	Modified time of the file (= created time when file is created)

### **Read File from Device**

A client can read a file from a *Device* by sending (here "logfile"-tagged URL is extended):

```
GET /.../profFileTransfer/logfiles/logfile?File=<file> HTTP/1.1
Host: HostNameDev
Accept: ....
```

The file that is requested is given in parameter <file>. For example, if the client wants to read the *logfile filename.pdf* the URL is */.../profFileTransfer/logfiles/logfile?file=filename.pdf*.

The client can use the *Accept* header to request a certain MIME type. The field is optional. If the field is used and the MIME type is not supported, the *Device* replies with a HTTP Status 406.

If access is possible (according to the user level), the *Device* returns the file.

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>
X-Content-SHA256: ....
....
```

The header *Content-Type* identifies the MIME type of the data (e.g. text/html or application/pdf).

The field *X-Content-SHA256* contains the Base64 encoded SHA256 has of the requested file.

If the content length is known, the *Content-Length* must be used. Otherwise using *Transfer-Encoding: chunked* the *Content-Length* must not be added. This follows the rfc2616.

### **Write file on Device (optional, only for certain Devices)**

A client can write a file on a *Device* by sending (here "logfile"-tagged URL is extended):

```
PUT /.../profFileTransfer/logfiles/logfile?File=<file> HTTP/1.1
Host: HostNameDev
Content-Type: ...
Content-Length: <decimal number of octets>
X-Content-SHA256: ....
...
```

The file that is written is given in parameter <file>. The client must send the *Content-Type* that identifies the MIME type of the data (e.g. text/html or application/pdf). The field *X-Content-SHA256* contains the Base64 encoded SHA256 hash of the file.

If the content length is known, the *Content-Length* must be used. Otherwise using *Transfer-Encoding: chunked* the *Content-Length* must not be added. This follows the rfc2616.

The *Device* checks, if the file already exists and if the user is allowed to write files. If it exists and writing is allowed, it is overwritten.

If the transmission has been successfully finished, the *Device* checks the SHA256 hash and compares it with *X-Content-SHA256*. If this is successful, the file is accepted and the *Device* replies with

HTTP/1.1 204 No Content

If the SHA256 hash check fails, the *Device* replies with

HTTP/1.1 400 Bad Request

The subsequent steps are *Device* specific. For example, a *Device* may decide that the installation of the new file is started after the next power cycle.

**Delete File on Device (optional, only for certain Devices)**

A client can delete a file on a *Device* by sending (here "logfile"-tagged URL is extended):

```
DELETE /.../profFileTransfer/logfiles/logfile?File=<file> HTTP/1.1
Host: HostNameDev
Content-Type: ...
Content-Length: <decimal number of octets>
```

The file that is deleted is given in parameter <file>.

The *Device* checks, if the user is allowed to delete the file. If it is possible, the file is deleted.

HTTP/1.1 204 No Content

If the file does not exist, the *Device* replies with 404 Not Found.

**Delete all Files of a certain type on Device (optional, only for certain Devices)**

A client can delete all files of a certain type on a *Device* by sending (here all "logfile"-tagged files):

```
DELETE /.../profFileTransfer/logfiles HTTP/1.1
Host: HostNameDev
Content-Type: ...
Content-Length: <decimal number of octets>
```

The *Device* checks, if the user is allowed to delete all files. If it is possible, all files of this type are deleted.

HTTP/1.1 204 No Content

If the file type does not exist, the *Device* replies with 404 Not Found.

**13.3**  
**Version 2**

### 13.3.1

The resource `/.../profFileTransfer/` is used to read/send/update/delete files on a *Device*.

### 13.3.2

#### Read File Resource

##### 13.3.2.1

The available file resources can be read via the resource `/.../profFileTransfer/`

```
GET /.../profFileTransfer HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to all accessible file types.

```
HTTP/1.1 200 OK
```

```
Content-Type: ...
```

```
Content-Length: <decimal number of octets>
```

```
{
```

```
    "Version": 2,  
    "Lock": {"href": "Lock/"},  
    "XKM": {"href": "XKM/"},  
    "Device": {"href": "Device/"},  
}
```

The field *XKM* contains the link to the file list on the XKM module, whereas *Device* contains the link to the file list on the *Device*.

If a GET is performed on `/.../profFileTransfer/{Type}/` with `{Type} = {XKM | Device}` the *Device* returns

```
GET /.../profFileTransfer/Device HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: ....
```

```
HTTP/1.1 200 OK
```

```
Content-Type: ...
```

```
Content-Length: <decimal number of octets>
```

```
{  
    "List": {"href": "List/"},  
    "Data": {"href": "Data/"},  
}
```

### 13.3.2.2

#### Read File List

##### 13.3.2.2.1

The available files list can be read partially via the resource `/.../FileTransfer/{Type}/List?idx1=...`

The parameter `idx1` must be set to the index within the file list.

```
GET /.../FileTransfer/Device/List?idx1=0 HTTP/1.1  
Host: HostNameDev  
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to all accessible files

```
HTTP/1.1 200 OK  
Content-Type: ...  
Content-Length: <decimal number of octets>  
  
{  
    "0": {"ID": 0, "Name": "progfile_0.prog", "Permission": 3, "Size": 1566, "Hash": "E8D...",  
          "Description": "Pr 00"},  
    "1": {"ID": 1, "Name": "progfile_1.prog", "Permission": 3, "Size": 3974, "Hash": "482...",  
          "Description": "Pr 01"},  
    "2": {"ID": 2, "Name": "progfile_2.prog", "Permission": 2, "Size": 659, "Hash": "B3CB...",  
          "Description": "Pr 02"},  
    "3": {"ID": 3, "Name": "progfile_3.prog", "Permission": 1, "Size": 1391, "Hash": "5719...",  
          "Description": "Pr 03"},  
    "4": {"ID": 4, "Name": "progfile_4.prog", "Permission": 3, "Size": 2387, "Hash": "91BA...",  
          "Description": "Pr 04"}  
}
```

The field `permission` contains information about the accessibility of a file

- 0: Not accessible
- 1: Read-Only
- 2: Write-Only
- 3: Read/Write
- 4: Read/Delete
- 5: Write/Delete
- 6: Read/Write/Delete
- 7..255: Reserved

Then, idx1 can be set to the next value in order to read the next partial list:

```
GET /.../FileTransfer/Device>List?idx1=5 HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to all accessible files

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
  "5": {"ID": 5, "Name": "progfile_5.prog", "Permission": 3, "Size": 2777, "Hash": "E8D...", "Description": "Pr 05"}, 
  "6": {"ID": 6, "Name": "progfile_6.prog", "Permission": 3, "Size": 3291, "Hash": "482...", "Description": "Pr 06"}, 
  "7": {"ID": 7, "Name": "progfile_7.prog", "Permission": 3, "Size": 1407, "Hash": "B3CB...", "Description": "Pr 07"}, 
  "8": {"ID": 8, "Name": "progfile_8.prog", "Permission": 3, "Size": 1391, "Hash": "5719...", "Description": "Pr 08"}, 
  "9": {"ID": 9, "Name": "conffile_0.conf", "Permission": 3, "Size": 2387, "Hash": "91BA...", "Description": "Cfg 0"}}
```

**If the place for a file is reserved, but no file is available (e.g. index 19)**

```
GET /.../FileTransfer/Device>List?idx1=19 HTTP/1.1
Host: HostNameDev
Accept: ....
```

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
  "19": {"ID": 19, "Name": "", "Size": 0, "Permission": 3, "Hash": "0000....", "Description": ""}}
```

**If the place for a file is not available (not existing)**

```
GET /.../FileTransfer/Device>List?idx1=30 HTTP/1.1
Host: HostNameDev
Accept: ....
```

HTTP/1.1 404 Not Found

### 13.3.3

#### Lock FileTransfer Resource

##### 13.3.3.1

Prior using the FileTransfer service, it must be locked in order to prevent concurrent access.

In order to lock the FileTransfer service the following request must be performed:

```
GET /.../profFileTransfer/Lock HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
"State": 22098
}
```

The field *State* is used as the parameter <lock id> in all FileTransfer requests. After the GET the FileTransfer resource is locked for this <lock id>.

If another user tries to access a locked FileTransfer the lock resource returns

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
"State": 0
}
```

If *State* equals 0, the resource is locked. The client shall then wait at least 10s and try again until *State* is unequal 0.

### 13.3.4

#### File Operation Sequences

##### 13.3.4.1

FileAccess (Read, Write, Delete) is performed by sequences.

The URL parameter idx1 is appended to all requests. The value for idx1 equals the <lock id> which is the value from *State* in the Lock resource.

The following table describes the fields that used by this service.

<FieldName>	Datatype	Read(R) Write(W)	Description
FileOperation	int	R/W	0: OPEN 1: WRITE 2: CLOSE 3: DISCARD 4: SHA256 5: DISCARD_VALIDATION_FAILED 6: DELETE <i>Delete the file selected by FileName</i> 7: READ <i>Read file content</i> 8: FINALIZE <i>Verify file context after write with SH256 hash AND close on success or discard on mismatch.</i> 9...255: RESERVED
FileName	string	R/W	Filename that shall be read/written/deleted
FileOffset	int	R/W	Offset in the file (for read and write file)
FileSize	int	R/W	Size of the file
OperationStatus	int	R	0: No Error 1: Cannot be opened 2: File not found 3: End of file 4: Write failed 5: Verify failed 6: File discard 7: Out of memory 8...255 Reserved
DataLength	int	R/W	Length of the subsequent Data field in bytes

			<i>Note: This is the binary data length! The following Data is in ASCII-HEX, therefore this field is always Data.Length/2 (as Data is a STRING).</i>
Data	string	R/W	Data encoded as ASCII-HEX

The following sections contain examples how a file can be read, written and deleted.

### 13.3.5

#### Read File Sequence

##### 13.3.5.1

Files can be read via a sequence. It is only possible to access a single file at the same time.

In order to read a file the file read sequence must be activated:

```
PUT /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1
Host: HostNameDev
Accept: ....
{
  "FileName": "progfile_4.prog",
  "FileOffset": 0,
  "FileOperation": 7
}
```

If access is possible (according to the user level), the *Device* returns

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>
[{"Success":{"Data":"progfile_4.prog"}]}
```

Then, the data can be read sequentially (chunk-wise). If <lock id> equals 22098, the request is

```
GET /.../profFileTransfer/Device/Data?idx1=22098 HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns.

```
HTTP/1.1 200 OK
```

```
Content-Type: ...
Content-Length: <decimal number of octets>

{
"FileName": "progfile_4.prog"
"FileOffset": 511
"FileSize": 2387
"OperationStatus": 0
"Datalength": 511
"Data": "7B..."
```

Then, the next chunk can be read

```
GET /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1
Host: HostNameDev
Accept: ....
```

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>
{
"FileName": "progfile_4.prog"
"FileOffset": 2044
"FileSize": 2387
"OperationStatus": 3
"Datalength": 343
"Data": "56CF..."
```

### File does not exist

```
PUT /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1
Host: HostNameDev
Accept: ....

{
"FileName": "progfile_30.prog",
"FileOffset": 0,
"FileOperation": 7
}
```

If access is possible (according to the user level), the *Device* returns the list of links to all [accessible](#) file types.

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

[{"Success":{"Data":"progfile_30.prog"}]]
```

If the first chunk is requested

```
GET /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1
Host: HostNameDev
Accept: ....
```

the *Device* returns

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
  "FileName": "progfile_30.prog"
  "FileOffset": 0
  "FileSize": 0
  "OperationStatus": 2
}
```

### 13.3.6

#### Write File Sequence

##### 13.3.6.1

###### 1) Start Write Sequence

```
PUT /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1
Host: HostNameDev
Accept: ....

{
  "FileName": "progfile_8.prog",
  "FileOffset": 0,
  "FileOperation": 1,
  "FileSize": 1407,
  "Datalength": 511,
  "Data": "51DB"
}
```

If access is possible the *Device* returns

```
HTTP/1.1 200 OK
Content-Type: ...
```

Content-Length: <decimal number of octets>

[{"Success":{"Data":"progfile\_8.prog"}}]

## 2) Continue

PUT /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1

Host: HostNameDev

Accept: ....

```
{
  "FileName": "progfile_8.prog",
  "FileOffset": 511,
  "FileOperation": 1,
  "FileSize": 1407,
  "Datalength": 511,
  "Data": "51DB"
}
```

HTTP/1.1 200 OK

Content-Type: ...

Content-Length: <decimal number of octets>

[{"Success":{"Data":"progfile\_8.prog"}}]

## 3) Finalize with hash SHA256 or RSA-signed SHA256 for firmware update

PUT /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1

Host: HostNameDev

Accept: ....

```
{
  "FileName": "progfile_8.prog",
  "FileOffset": 0,
  "FileOperation": 8,
  "FileSize": 1407,
  "Datalength": 32,
  "Data": "49..."
}
```

HTTP/1.1 200 OK

Content-Type: ...

Content-Length: <decimal number of octets>

[{"Success":{"Data":"progfile\_8.prog"}}]

## 4) Read state of write access

GET /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1

Host: HostNameDev

Accept: ....

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
"FileName": "progfile_8.prog",
"FileOffset": 385,
"FileSize": 1407,
"OperationStatus": 0
}
```

### 13.3.7

#### Delete File Sequence

##### 13.3.7.1

###### Delete Sequence

```
PUT /.../profFileTransfer/Device/Data?idx1=<lock id> HTTP/1.1
Host: HostNameDev
Accept: ....

{
"FileName": "progfile_8.prog",
"FileOffset": 0,
"FileOperation": 6
}
```

If access is possible the *Device* returns

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

[{"Success":{"Data":"progfile_8.prog"}]}
```

**14**  
**tbd...End of Line**

**14.1**

**ToDo:**

**Ideensammlung**

Im Falle Bandende muss der komplizierte Verbindungsaufbau der MDU nicht durchgeführt werden

Anmeldung mit einem Default-User und der könnte dann die Funktionen ausführen. Ab einem bestimmten Zeitpunkt könnte der Bandende User deaktiviert werden (falls für das Gerät erforderlich)

OperatingMinutesElectronic kann geschrieben werden

**15**

**Service: WLAN Commissioning**

**15.1**

The resources for WLAN and manual IP commissioning are only accessible, if a WLAN-capable *Host* is not commissioned. That means the user has not added a WLAN configuration yet. WLAN and IP commissioning are performed via the resource /WLAN/ that is located directly under the root path. If this service is used from the Soft-AP mode (uncommission), no encryption/authorization is applied.

The port is always 80 (HTTP).

**15.2**

**Soft-AP mode**

**15.2.1**

If the WLAN communication module has not been commissioned, and if the WLAN is enabled, and if the appliance is switched on, the communication module starts an own WLAN network in Soft-AP mode.

WLAN is enabled by default (always on), in case of using a WLAN module that is inserted into the communication shaft. For next generation devices or devices with integrated WLAN communication module, it must be actively enabled by the user, via the device UI. There will be an item/button “Activate WLAN/Remote”.

The *Hosts* construct the SSID from the technical type and the Miele devicetype. It is constructed according to the following scheme:

SSID:= MieleProf-<TechnicalType>-<DeviceType>

For example, the SSID for a WMV960 washing machine would be

SSID:=MieleProf-WMV960-1

If the technical type is missing or it is empty, the field is left empty. For example

SSID:=MieleProf--1

**The WPA passphrase equals the fabrication number (serial number) of the *Device*.** If there are prepending zeros, they are removed.

For example, if the FabNr is 000012345678 the resulting WPA passphrase is

WPApassphrase:=12345678

If the *Device* does not have a fabrication number or if the resulting number is all 0s, or if the resulting number is less than 8 characters , the default WPA passphrase **MieleProf** is used.

The *Host* offers a DHCP Server and it always has the IP address 192.168.1.1

**It is only possible to connect ONE client at the same time to the Soft-AP!**

## 15.3

### WLAN Scan (GET /WLAN/Scan/)

#### 15.3.1

The resource /WLAN/Scan/ is read-only and it returns the SSIDs and encryption methods of all WLAN networks that can be received by the communication module.

As an example, the networks can be received by an external application by calling

```
GET /WLAN/Scan/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The *Host* replies with an array that contains the available WLAN networks

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "Result": [{"SSID": "WLANNetwork1", "Sec": "WPA", "RSSI": -70},
              {"SSID": "WLANNetwork2", "Sec": "WEP", "RSSI": -80},
              {"SSID": "WLANNetworkABCD", "Sec": "Open", "RSSI": -92}]
}
```

In this example, the communication module receives three WLAN networks. The *field* SSID contains the SSIDs *WLANNetwork1*, *WLANNetwork2* and *WLANNetworkABCD*. The encryption methods are returned in the *Sec* field. Finally, the *RSSI* field contains the receive signal strength indicator.

## 15.4

### WLAN and IP Configuration (PUT /WLAN/)

#### 15.4.1

##### Configure Host Soft AP (Local Point-to-Point)

###### 15.4.1.1

The *Host* can be configured by an external application by calling

```
PUT /WLAN/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "SoftAPSSID": "WLANNetwork1",
  "SoftAPKey": "abcdefghijklm"
}
```

After reception of the PUT operation the *Host* checks the parameters. If they are successful it replies with

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"SoftAPSSID": "WLANNetwork1"}},
  {"Success": {"SoftAPKey": "abcdefgh1234"}}
]
```

Afterwards, the *Host* closes the Soft-AP network or it leaves the customer network (discards all relevant information) and it opens a new Soft-AP with the above parameters.

The encryption is always WPA2-PSK.

**Note:** It might take up to 15s until the Host establishes the Soft-AP.

If a single parameter is wrong or inconsistent, the *Host* returns the corresponding *Failure* key, and it discards all information. Furthermore, it does not try to open the Soft-AP.

## 15.4.2

### Configure Host to join WLAN Network (Infrastructure Mode)

#### 15.4.2.1

The *Host* can be configured by an external application by calling

```
PUT /WLAN/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "SSID": "WLANNetwork1",
  "Sec": "WPA",
  "Key": "abcdefgh1234"
}
```

After reception of the PUT operation the *Host* checks the parameters. If they are successful it replies with

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"SSID": "WLANNetwork1"}},
  {"Success": {"Sec": "WPA"}}
]
```

```
{"Success": {"Key": "abcdefg1234"}}  
]
```

Afterwards, the *Host* closes the Soft-AP network or it leaves the customer network and it tries to connect to the network given in the *SSID* field.

**Note:** *It might take up to 15s until the Host connects to the WLAN network to which it is commissioned.*

If the *Host* is not able to connect to the WLAN network, it keeps the previously transmitted information (for readback in the APP) and it starts the Soft-AP again.

If a *Host* has been able to connect to the WLAN once, it stores this information and it always tries to reconnect (until the user resets the module via the user interface).

If a single parameter is wrong or inconsistent, the *Host* returns the corresponding *Failure* key, and it discards all information. Furthermore, it does not try to connect to the network.

#### 15.4.2.2

##### Mandatory and optional fields for WLAN configuration

###### 15.4.2.2.1

Regarding the fields of /WLAN/, there are some options. The fields *SSID*, *Key* and *Sec* are optional, e.g.

```
...  
"SSID": "WLANNetwork1",  
"Sec": "WPA",  
"Key": "abcdefg1234",  
...
```

If *SSID* is present, *Key* and *Sec* must also be present. Furthermore, the field *WPSPBC* must not be present, if *SSID*, *Sec* and *Key* are set. *Sec* can be “Open”, “WEP” and “WPA”.

*WPSPBC* contains a Boolean value that is used to enable push button configuration. If *WPSPBC* is present, *SSID*, *Sec* and *Key* must not be present.

For example, if the user wants to join a network via push button configuration, he performs

```
PUT /WLAN/ HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
    "WPSPBC": true  
}
```

### 15.4.2.3

#### Manual IP configuration

##### 15.4.2.3.1

The IP configuration of a module can also be changed via the resource `/WLAN/`.

The fields *IP*, *Subnet*, *Gateway*, *DNS1* and *DNS2* are optional. If IP shall be configured, all five of them must be present. For example, if the user wants to configure the IP 192.168.1.12, subnet mask 255.255.255.0 and (IP-) gateway 192.168.1, he must also add DNS servers. The fields *DNS1* and *DNS2* are used to configure DNS servers.

```
PUT /WLAN/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "SSID": "ABCD",
    "Sec": "WPA",
    "Key": "abcdefghijklmn",
    "IP": "192.168.1.12",
    "Subnet": "255.255.255.0",
    "Gateway": "192.168.1.1",
    "DNS1": "10.20.30.40",
    "DNS2": "13.12.14.2"
}
```

Furthermore, it is possible to add own DNS servers without setting the IP address.

For example

```
PUT /WLAN/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "SSID": "ABCD",
    "Sec": "WPA",
    "Key": "abcdefghijklmn",
    "DNS1": "10.20.30.40",
    "DNS2": "13.12.14.2"
}
```

### 15.4.2.4

#### Read current configuration (GET /WLAN/)

##### 15.4.2.4.1

It is also possible to read/modify the current configuration with a PUT, GET on /WLAN/ via Miele@home Group mode. However, for a GET the "Key" is not returned and substituted with "\*\*\*".

The following table describes the WLAN fields for Prof MED Devices

<FieldName>	Description
MAC	MAC address
DHCP	DHCP state, enabled or not
Scan	Scan node, with found access points list
WPSPBC	WPS state
SSID	SSID name
Sec	Security type
Key	Security key, if available
IP	Current IP address
Subnet	Current subnetwork mask
Gateway	Current gateway
DNSAuto	DNS auto state
DNS1	DNS1 address
DNS2	DNS2 address
RSSI	RSSI value
Percentage	Percentage value

Table: Fields used in the WLAN for Prof MED Devices

Example: WLAN for Prof MED device

```
{  
    "MAC": "00:1D:63:00:89:44",  
    "DHCP": 1,  
    "Scan": {  
        "href": "Scan/"  
    },  
    "WPSPBC": false,  
    "SSID": "WSS_WLAN_7490",  
    "Sec": "WPA",  
    "Key": "***",  
    "IP": "192.168.178.137",  
    "Subnet": "255.255.255.0",  
    "Gateway": "192.168.178.1",  
    "DNSAuto": 1,  
    "DNS1": "192.168.178.1",  
    "DNS2": "8.8.8.8",  
    "RSSI": -54,
```

```
    "Percentage": 74
}
```

## 16

Service: profPrinterLog

### 16.1

The resource `/.../profPrinterLog/` is read-only, and it returns the printer log.

For version <=51.03 (XKM 3100 W CDS) the service is only available in Soft-AP-Mode!

For version >=51.04 (XKM 3100 W CDS) the service is available in Soft-AP-Mode and Infrastructure-Mode!

This service must be configured within the communication module and the *Device* itself. Via the *Device* UI the external printer must be activated. Then, the *Device* interface configuration is changed and printer friendly data is sent instead of the general Opcode85 protocol data. However, the communication module MUST read the *Identlabel* at least once. Otherwise it will not be possible to startup.

Therefore, the following flow must be kept:

- 1) The communication module must first read the Identlabel.
- 2) Then, it will start the Soft-AP
- 3) Afterwards, the printer mode can be activated via the *Device* UI.
- 4) After the printer mode is activated, the communication module must be reconfigured to support the service.
- 5) For version >=51.04 a switch to Infrastructure-Mode is possible.

**Note: All other services will stop functioning after the profPrinterLog service is activated!**

The profPrinterLog service can be retrieved via:

```
GET /.../profPrinterLog/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

The *Device* returns the current configuration and log:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "activated": false,
    "error": 0,
    "count": 2,
    "log": ""
}
```

The following table describes the fields that are returned by this service call.

<FieldName>	Datatype	Read(R) Write(W)	Description
activated	bool	R/W	Set to true, if this service is activated. Set to false if this service is deactivated. Can be modified via a PUT operation.
count	u8	R	<p>Increased every time by 1 after log has been read. A client can use this value to determine whether parts of the printer data have been lost.</p> <p>This variable is set to 0 after a RESET of the communication module.</p> <p>Also, this counter is set to 0, if the log buffer has been overwritten.</p>
log	string	R	<p>A JSON string that contains the printer data formatted in ASCII-HEX read from the <i>Device</i>. It is returned in this format as there might be some symbols that cannot be shown in JSON representation in order to keep the complexity low in the communication module.</p> <p>The communication module will write the data into a buffer after it is received from the <i>Device</i>. Therefore, the correct sequence will be kept.</p> <p>The data IS NOT saved persistently in the communication module! It is returned as it was received from the <i>Device</i>. A client must poll this service at least every 1s and the client must be able to reassemble the data received. No full lines, etc. are provided by the communication module.</p> <p>After the service has been called via a GET, all data returned in <i>log</i> are deleted from the buffer.</p>

			<p>A client <b>MUST</b> only use one connection (not multiple parallel ones) to poll the data!</p> <p>The communication module will be able to cache <b>XX characters (ToDo!)</b>.</p> <p>If the communication module performs a reset (e.g. triggered by a watchdog problem, etc.) the data in the buffer is lost. Then, the log must be requested again via the <i>Device UI</i>.</p> <p>The buffer is created as a FIFO-buffer, but if the buffer is full, only the newest data will be kept in RAM.</p>
error	u8	R	<p>A bitfield which contains information about the error state of the log-function:</p> <p>Bit 0: BufferOverflow There was an buffer overflow, because the buffer have not been read for a longer period.</p> <p>Bit 1: Communication Will be set, if there were 3 UART-error in a row.</p> <p>Bit 2: Deadlock There is a deadlock of the log buffer. Data received on the UART could not be written into the buffer, because it is lock by the external application. Time-out of 500ms.</p> <p>Bit 3-7: RESERVED</p>

Table: Fields used in the profPrinterLog service

The service can be activated by calling

```
PUT /.../profPrinterLog/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{
  "activated": true
}
```

After reception of the *PUT* operation the *Device* checks the parameters. If they are successful, it replies with

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"activated": true}}
]
```

Afterwards, the *Device* closes all other services.

## 17

### Service: profUser

#### 17.1

The *profUser* service has been specified to be able to manage different users with defined authorizations locally on the *Device*.

```
GET /.../profUser/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "users": {"href": "/users"},
  "roles": {"href": "/roles"},
  "permissions": {"href": "/permissions"}
}
```

## 17.2

### Permissions

#### 17.2.1

Permisson are specified properties that can be used for defined roles.

<Fieldname>	Datatype	Read (R) / Write (W)	Description
ID	ENUM 16	R	The ID for a certain permission. Details regarding IDs are given in subsequent chapter.
Description (optional)	String, max size 65 Byte (64 + \0)	R	If no description is existing, string is empty.

#### 17.2.2

##### GET all Permissions

#### 17.2.2.1

```
GET /.../profUser/permissions HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "123": {"href": "/123"},
  "456": {"href": "/456"}
}
```

### 17.2.3

#### GET Details of single Permission

##### 17.2.3.1

```
GET .../profUser/permissions/123 HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "ID": 123,
  "Description": "....."
}
```

### 17.2.4

#### Well-known Permission IDs

##### 17.2.4.1

A permission ID is a u16 value.

The 16b value is used according to the following description

Permission ID – 16 Bit		
Service - 8 Bit	Reserved - 4 Bit	HTTP Verbs - 4 Bit
Identifier for the REST service (see following table)	Always 0000	1000 := GET 0100 := PUT 0010 := POST 0001 := DELETE

The following identifiers are used for the REST-Services

Service	ID
.../Ident	0x01
.../State	
.../profUser/users	0x11
.../profUser/roles	0x12
/WLAN	0x21
/Security/Cloud	0x22

.../Settings	0x31
.../FileTransfer	0x32
.../profProgram	0x41
.../profService	0x51
.../profSensor	0x52
.../profPayment	0x61
.../profDosing	0x71
.../profLock	0x91
.../DOP2	0x81

**Example 1: Permission GET allowed for profDosing**

Service = 0x71

Reserved + HTTP-GET = 0x08

**Permission = 0x7108 = 28936 dec****Example 2: Permission PUT allowed for profPayment**

Service = 0x61

Reserved + HTTP-PUT = 0x04

**Permission = 0x6104 = 24836 dec**

## 17.3

### Roles

#### 17.3.1

Roles can be grouped into roles to assign function-related rights to users.

<Fieldname>	Datatype	Read (R) / Write (W)	Description
ID	u16	R/W	Values 0..100 and 65535 are reserved
Description	String, max size 65 Byte (64 + \0)	R/W	If no description is existing, string is empty.
Permissions	U16 Array[32]	R/W	Maximum of 32 permissions per Role, every role is ENUM 16 from permissions

**17.3.2****GET all Roles****17.3.2.1**

```
GET /.../profUser/roles HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
```

```
Content-Type: application/vnd.miele.v1+json; charset=utf-8
```

```
Content-Length: <decimal number of octets>
```

```
{
  "987": {"href": "/987"},
  "675": {"href": "/675"}
}
```

**17.3.3****GET Details of single Role****17.3.3.1**

```
GET /.../profUser/roles/987 HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
```

```
Content-Type: application/vnd.miele.v1+json; charset=utf-8
```

```
Content-Length: <decimal number of octets>
```

```
{
  "ID": 987,
  "Description": "Betreiber",
  "Permissions": [123, 456]
}
```

**17.3.4**  
**Add Role**

**17.3.4.1**

```
POST .../profUser/roles HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "ID": 987,
  "Description": "operator",
  "Permissions": [123, 456]
}
```

Response:

```
HTTP/1.1 201 Created
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

Location: http://<host name>:<port>/Devices/<id >/profUser/roles/987
```

**17.3.5**  
**Modify Role**

**17.3.5.1**

```
PUT .../profUser/roles/987 HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "Description": "operator",
  "Permissions": [123, 456]
}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"Description": "operator"}},
  {"Success": {"Permissions": [123, 456]}}
]
```

### 17.3.6

#### DELETE Role

##### 17.3.6.1

```
DELETE /.../profUser/roles/987 HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP 204 No Content
```

### 17.3.7

#### Well-Known Role IDs

##### 17.3.7.1

Role ID	Permission	GET	PUT	POST	DEL	Comments
1	AC_PERM_GENERAL	X				General Role, Ident/State
2	AC_PERM_GENERAL		X			General Role, Ident/State
101	AC_PERM_USER_MNG_USERS	X	X	X	X	User Management
101	AC_PERM_USER_MNG_ROLES	X	X	X	X	User Management
102	AC_PERM_NETW_MNG_IP	X	X	X	X	Network and Cloud Management
102	AC_PERM_NETW_MNG_CLOUD	X	X	X	X	Network and Cloud Management
103	AC_PERM_PAYMENT	X	X	X	X	Payment Systems
104	AC_PERM_DOSING	X	X	X	X	Dosing Systems
105	AC_PERM_CONF_MNG	X				Settings
105	AC_PERM_CONF_MNG_FILE	X				Settings

106	AC_PERM_CONF_MNG		X			Settings
106	AC_PERM_CONF_MNG_FILE		X			Settings
107	AC_PERM_PROF_LOCK	X				PROF
108	AC_PERM_PROF_LOCK		X			PROF
109	AC_PERM_PROG_MNG	X	X			Program Systems
111	AC_PERM_SERVICE	X				profService
112	AC_PERM_SERVICE		X			profService
113	AC_PERM_CONF_MNG				X	Settings
114	AC_PERM_PROF_LOCK				X	PROF
121	AC_PERM_DOP2	X				DOP2
122	AC_PERM_DOP2		X	X	X	DOP2

## 17.4

### User

#### 17.4.1

The User-Service allows you to create and modify users, assigning the appropriate roles to their request-related authorizations.

Up to 20 users are supported by a *Device*.

<Fieldname>	Datatype	Read (R) / Write (W)	Description
ID	u16	R/W	Values 0..100 and 65535 are reserved
LoginName	String, max size 65 Byte (64 + \0)	R/W	Username
Password	String, max size 65 Byte (64 + \0)	W <b>Password is never returned in responses for GET requests!</b>	Password for LoginName min. 8 characters with Uppercase, lowercase, special characters and numbers.
Type	ENUM 16	R/W	0: Reserved 1: HTTP User else: Reserved
Description	String, max size 65 Byte (64 + \0)	R/W	If no description is existing, string is empty.
Roles	U16 Array[32]	R/W	Maximum of 32

		Roles per User, every Role is ID from Roles ser- vice
--	--	--

**17.4.2**GET all Users**17.4.2.1**

```
GET /.../profUser/users HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "101": {"href": "101/"}
  "200": {"href": "200/"}
}
```

**17.4.3**GET Details of single User**17.4.3.1**

```
GET /.../profUser/users/101 HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{  
    "ID": 101,  
    "LoginName": "Betreiber1",  
    "Password": "****",  
    "Type": 1,  
    "Description": "this is a description",  
    "Roles": [1, 101, 102]  
}
```

#### **17.4.4**

##### **Add User**

##### **17.4.4.1**

```
POST .../profUser/users HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
    "ID": 101,  
    "LoginName": "Betreiber1",  
    "Password": "new password",  
    "Type": 1,  
    "Description": "this is a description",  
    "Roles": [1, 101, 102]  
}
```

Response:

```
HTTP/1.1 201 Created  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
Location: http://<host name>:<port>/Devices/<id >/profUser/users/101
```

#### **17.4.5**

##### **Modify User**

### 17.4.5.1

```
PUT /.../profUser/user/101 HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "ID": 101,
    "LoginName": "Betreiber1",
    "Password": "new password",
    "Type": 1,
    "Description": "this is a description",
    "Roles": [1, 101, 102]
}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
    {"Success": {"ID": 101}},
    {"Success": {"LoginName": "Betreiber1"}},
    {"Success": {"PIN": "...password..."}},
    {"Success": {"Type": 1}},
    {"Success": {"Description": ""}},
    {"Success": {"Roles": [987]}}
]
```

*Note: It is also possible to modify a subset of the values (not all of them). In this case, "Success" is only returned for the field that have been modified.*

**ID and LoginName CANNOT be modified! In this case, the user must be deleted and added again.**

### 17.4.6

#### DELETE User

### 17.4.6.1

```
DELETE /.../profUser/users/1122 HTTP/1.1
```

```
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP 204 No Content
```

## **17.5**

**tbd...Error Codes**

### **17.5.1**

**ToDo: Add details about error handling**

```
HTTP 500 Internal Server Error
```

```
{  
"Error": 65535  
}
```

## **17.6**

**tbd...Standard Users/Roles (After Factory Reset)**

## **17.6.1**

It shall be possible to perform Factory Reset in order to DELETE all users and return to default values via the appliance UI.

## **18**

**Service: profPayment**

### **18.1**

The profPayment service serves as an interface for cashier applications that manage the payment process with Miele Prof. Devices via IP.

The complexity (prices, approval, etc.) of this process is mapped by the external payment system.

## 18.2

### IP Profile Basic

#### 18.2.1

The following field is used in the profPayment service for IP Profile Basic.

<Fieldname>	Datatype	Read (R) / Write (W)	Description
PaymentState	ENUM 16	R/W	<p><b>0: Not paid</b></p> <p><b>1: Paid</b></p> <p><b>2: FreeOfCost</b></p> <p>This state can be set for programs which should be for free.</p> <p><b>3: PayExtra</b></p> <p>The initial value is 0-Not paid. It is set to 1-Paid by a payment system, the user can press Start on the machine or execute it via remote. Start is not possible if PaymentState==0. If the Device ends a program, or if PaidTime expires PaymentState is set to 0-Not paid.</p>

## 18.3

### IP Profile Extended

#### 18.3.1

The external payment system must have a valid session with adequate permissions. The session times out (SESSION\_TIMEOUT is returned in profUser service), if the SESSION\_TOKEN has not been used for 600s. In this case, the Device assumes that the payment system is not available anymore and the Device control is informed.

The following fields are used in the profPayment service for IP Profile Extended.

<Fieldname>	Datatype	Read (R) / Write (W)	Description
PaymentMode	ENUM 16	R/W	<p><b>0: No payment system connected</b></p> <p><b>1: Payment system connected</b></p> <p>The additional fields shall only be evaluated, if PaymentMode==1. The field Payment is evaluated then.</p>
PaymentState	ENUM 16	R/W	<p><b>0: Not paid</b></p> <p><b>1: Paid</b></p> <p><b>2: FreeOfCost</b></p> <p><b>3: PayExtra</b></p> <p><b>255: unused</b></p> <p>The initial value is 0-Not paid. It is set to 1-Paid by a payment system,</p>

			<p>the user can press Start on the machine or execute it via remote. Start is not possible if PaymentState==0. If the Device ends a program, or if PaidTime expires PaymentState is set to 0-Not paid.</p> <p>If the paymentState changes to 0 during a running program on Washing the program will not be aborted. It will run till the end.</p>
TimeMode	ENUM 16	R	<p><b>0: TimeMode not active</b></p> <p><b>1: TimeMode active</b></p> <p>The user can buy operating minutes (given in PaidTime).</p> <p><b>NOTE: For the professional and semi-professional dryer is this object is also writable.</b></p>
PaidTime	Unit16	R/W	<p>Paid payment system time in minutes. This field is only valid, if TimeMode==1.</p>

			<p>Field shall only be validated, if PaymentState==1-Paid.</p> <p>The Device stops after PaidTime automatically and sets PaymentState to 0-Not paid</p> <p><b>NOTE: Modulo devices can't write the PaidTime. It can only be read via Modulo.</b></p>
--	--	--	--

## 18.4

### GET profPayment

#### 18.4.1

```
GET /.../profPayment/
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "PaymentMode": 1,
  "PaymentState": 1,
  "TimeMode": 0,
  "PaidTime": 0
}
```

## 18.5

### PUT profPayment

#### 18.5.1

```
PUT /.../profPayment/  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
    "PaymentMode": 1,  
    "PaymentState": 1,  
    "PaidTime": 0  
}
```

#### Response:

```
HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
[  
    {"Success": {"PaymentMode": 1}},  
    {"Success": {"PaymentState": 1}},  
    {"Success": {"PaidTime": 0}}  
]
```

## 19

### Service: profDosing

#### 19.1

The profDosing service serves as an interface for dosing applications that manage the dosing process with Miele Prof. Devices via (W-)LAN.

The complexity (volume, declarative detergent, etc.) of this process is mapped by the external dosing system.

<Fieldname>	Datatype	Read (R) / Write (W)	Description
Block	ENUM 16	R	Current dosing block. ID tbd
<b>ProgramDosingRequirement</b>	Object (optional)	R	This object contains requirements, if any, for the dosing of the selected program. This object is optional.
ProgramDosingRequirement.Type	ENUM16	R	<b>0: No requirement</b> <b>1: ml absolute</b> <b>2: ml per kg laundry</b>
ProgramDosingRequirement.Volume	Uint16	R	Dosing agent quantity in ml
ProgramDosingRequirement.Temperature	Uint8	R	Temperature Trigger in [°C]
WaterLevel	Uint16	R	WaterLevel in machine in [mm]
WaterVolume	Uint16	R	WaterVolume in machine in [l] * 10 (deciliters)
Temperature	Uint16	R	Temperature in machine in [°C] * 100
LaundryLoadLevel	ENUM 16	R	<b>0: None</b>  <b>1-4: Level X</b>
LaundryLoadWeight	Uint16	R	Weight of load in [kg] * 10
WaterIntakeCompleted	ENUM 16 (optional)	R	<b>0: Not completed</b>  <b>1: Completed</b>

<b>DosingOperation</b>	Object	R/W	Object, that can be written by an external dosing system and that is forwarded to the Device control.
DosingOperation.Action	ENUM 8	R/W	<p><b>0: None</b>  If a non hygiene program is chosen and a DosingOperation.Action NONE is sent it should continue to run the program without giving any dosing error messages because at this state external dosing is deactivated.</p> <p><b>1: Active</b></p> <p><b>2: Finished</b></p> <p><b>3: Flush</b></p> <p><b>4: Error</b></p>
DosingOperation.Additive (Optional)	Uint16	R/W	Amount of dosing additive in [ml]
DosingOperation.WaterIntakeAddition (Optional )	Uint16	R/W	Calculation of the amount of water supplied before dosing. Volume of dosing in [l] * 10
DosingOperation.Type (Optional)	ENUM 16	R/W	<p><b>0: None</b></p> <p><b>1: Laundry Detergent</b></p> <p><b>2: Fabric Softener</b></p> <p><b>3: Bleach</b></p>
DosingOperation.DosingAgentName	Identifier (String)	W	Name of the dosed liquid.

			Can be written by the dosing unit.
--	--	--	------------------------------------

## 19.2

### GET profDosing

#### 19.2.1

```
GET /.../profDosing/  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
    "Block": 4,  
    "WaterLevel": 750,  
    "WaterVolume": 30,  
    "Temperature": 450,  
    "LaundryLoadLevel": 2,  
    "LaundryLoadWeight": 5,  
    WaterIntakeCompleted Ergänzen siehe DOP2 Objekt State InfoMachine  
    "DosingOperation": {  
        "Action": 1, MUSS  
        "Additive": 1, Rest optional Menge des Dosiermittels in ml  
        "WaterIntakeAddition": 3,  
        "Type": 2  
    }  
    "DosingAgentName": string 26 Zeichen??  
    }  
    "DosingRequirement": {  
        {  
            "Type": 1,  
            "Volume": 100, Summiert über alle Pumpen!  
            "Temperature": 0  
        }  
    }
```

```
}
```

Dosiermittel leer: DosingOperation.Action = Error Meldung oder bei Hygieneprogramm  
= Abbruch

### 19.3

#### PUT profDosing

##### 19.3.1

```
PUT /.../profDosing/DosingOperation
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "Action": 1,
  "Additive": 150,
  "WaterIntakeAddition": 3,
  "Type": 2
}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"Action": 1}},
  {"Success": {"Additive": 150}},
  {"Success": {"WaterIntakeAddition": 3}},
  {"Success": {"Type": 2}}
]
```

The PUT Operation is performed by an external dosing unit in order to tell Device that dosing has finished.

## 20

### tbd... Service: profPeakload

**21****tbd... Service: profNFC****22****tbd... Service: profProgramLock****23****Service: profLock****23.1**

The profLock service serves as an interface for cashier/reservation applications that manage the payment process with Miele Prof. Devices via IP.

The complexity of this process is mapped by the external payment/reservation system.

The service is identical for IP Profile Basic and IP Profile Extended.

**23.2****IP Profile Basic and IP Profile Extended****23.2.1**

The following field is used in the profLock service for IP Profile Basic and IP Profile Extended

<Fieldname>	Datatype	Read (R) / Write (W)	Description
IsLocked	bool	R/W	false: Not locked true: Locked
KeepDoorLocked	bool	R/W	If this flag is "true" the door will be stay locked and an unlocking will be avoided. The intention is that the machine behave the same way after a

			restart.
ExternalUserIdentificationOutstanding (Only for Modulo)	bool	R/W	This flag unlocks the door after an User identification. If the door is locked the state goes to "true (1)" after the identification is goes to "false (0)" and the door is unlocked.

## 23.3

### GET profLock

#### 23.3.1

```
GET /.../profLock/  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>  
  
{  
  "IsLocked": true  
}
```

## 23.4

### PUT profLock

#### 23.4.1

```
PUT /.../profLock/  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json  
Content-Type: application/vnd.miele.v1+json; charset=utf-8
```

```
Content-Length: <decimal number of octets>
```

```
{
  "IsLocked": true
}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"IsLocked": true}}
]
```

## 24

### Service: Settings for Professional

#### 24.1

This resource lists all settings services that can be configured for the *Device*

```
GET /.../Settings/ HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links for the supported settings services

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
  "TimeSync": {"href": "TimeSync/"}
  "DeviceSettings": {"href": "DeviceSettings/"}
  "DosingConfiguration": {"href": "DosingConfiguration/"}
  "Program": {"href": "Program/"},
```

```
}
```

## 24.2

### Time Synchronisation

#### 24.2.1

TimeSynchronisation is only accessible via the Miele@home *Group* mode. The resource can be read and written.

A GET on .../Settings/TimeSync/ would result in

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "DateTime": [3,2,2015,13,1,24]
  "NTPEnabled": true,
  "UTCOffset": [1,0,0],
  "TimeMaster": true
}
```

The field *DateTime* contains the current localized date and time of the *Device*. In this example, the date is February 3rd 2015 and the current time is 13(h):01(m):24(s). The time is always given in 24h time format. This field is read- and writeable. The value is stored and retrieved from the *Device*. (*Note: DateTime DOES NOT represent the UTC time!*)

The field *NTPEnabled* is Boolean. If it is set to *TRUE*, the *Device* time is synchronized via the NTP protocol. If it is set to false, it is not synchronized via NTP. This field is read- and writeable. The default value is *FALSE*.

The field *UTCOffset* is an array that contains three signed integer values that represent the UTC offset that is needed, if *NTPEnabled* is *TRUE*. If *NTPEnabled* is *FALSE*, this field is not used. This field is read- and writeable. The default value is [0,0,0].

The field *TimeMaster* is Boolean. If it is set to *TRUE*, the *Device* is the *TimeMaster* of the network. This means that this *Device* synchronizes the time of all other devices. This field is read- and writeable. The infor-

mation on the *TimeMaster* state is stored and retrieved from the appliance. It can also be changed via the appliance UI.

If both *NTPEnabled* and *TimeMaster* are *TRUE* on a *Device*, this *Device* is the *TimeMaster* and it synchronizes all other devices with the current NTP time. Details regarding the operation of the *TimeMaster* are given in the subsequent section.

If the *Device* does not support a time, or if the *Device* is switched off (network standby) a 504 is returned.

## 24.2.2

### Chaning the SystemTime

#### 24.2.2.1

The time can be changed via a PUT operation to .../Settings/TimeSync/

```
PUT /Devices/123456789101/Settings/TimeSync/ HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "DateTime": [3,2,2015,13,1,24]
}
```

After reception of the PUT operation the *Device* replies with

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

[
  {"Success": {"DateTime": [3,2,2015,13,1,24]}}
]
```

If the *Device* does not support a time, or if the *Device* is switched off (network standby) a 504 is returned.

## 24.3

### DeviceSettings

#### 24.3.1

This resource can be used to change device settings such as display brightness or the language.

### 24.3.2

#### Setting Properties

<Fieldname>	Datatype	Read (R) / Write (W)	Description
Id	u16	R	ID of Setting.
Validity	u8	R	<p>Validity of the Setting (Bitfield LSB)</p> <p>0 invisible</p> <p>1 customer service (can only be changed by the customer service via local Access Point oder optical Interface)</p> <p>2 supervisor</p> <p>4 user</p> <p>128 unsupported (PF invalid respectively not existing, all other attributes can be ignored)</p>
			<p>The validity is regardless of the main state.</p> <p>see chapter <a href="#">interpretation types</a></p>
IntType	u16	R	
CurrentValue	u16	R/W	<p>0 = no interpretation type</p> <p>Active value of the Setting,</p> <p>Invalid value or read error = 0xFF!</p>
Min	u16	R	Minimum approved value of the Setting
			(invalid, if ListRef !=0)
Max	u16	R	Maximum approved value of the Setting
			(invalid, if ListRef !=0)
Default	u16	R	Default value of this Setting
ListRef	u16	R	If the value != 0, then there is a list of possible values. See ValueList Step Size, invalid if ListRef !=0
StepSize	u8	R	
			0 = no StepSize. (Optional)
ExtVal	bool	R	

Extended setting information for coarse and fine adjustment.

If active then there are further setting information in ExtValueData.

Is currently used in the washer for the temperature and spin speed setting.

(Optional)

FineAdjusted	bool	R	
ValueList	List	R	Only for internal use. List of possible setting values. <b>Only valid if ListRef != 0</b> (Optional)
ExtValueData	struct	R	Depends on ExtVal (If ExtVal == true)

#### Extended Value properties:

<Fieldname>	Datatype	Read (R) / Write (W)	Description
Id	u16	R	ID of Setting.
Coarse	struct	R	for coarse adjustment value list
Fine	struct	R	for fine adjustment value range
FineMinArray	struct	R	Fine adjustment: min value(s)
FineMaxArray	struct	R	Fine adjustment: max value(s)

#### Coarse properties:

<Fieldname> >	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	Bitmask LSB 0x00: not supported 0x01: value is adjustable 0x08: value is visible

			<b>External applications can ignore this attribute.</b>
CurrentValue	u16	R	current value
CurrentValueInfo	u8	R	(Optional) Additional information about CurrentValue(e.g. eco/label-symbol).  0: not used 1: eco label for temperature 2: cold label for temperature
NumOfElements	u8	R	Number of valid elements in ParameterArray.
ParameterArray	u16 array	R	value list
ValueInfo	u16 array	R	(Optional) Additional information about parameter in Parameter Array (e.g. eco/label-symbol).  0: not used 1: eco label for temperature 2: cold label for temperature
IntType		R	see chapter <a href="#">interpretation types</a>

**Fine properties:**

<Fieldname>	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	Bitmask LSB 0x00: not supported 0x01: value is adjustable 0x08: value is visible  <b>External applications can ignore this value.</b>
Min	u16	R	Minimum adjustable value
Max	u16	R	Maximum adjustable value
Current	u16	R	Current value
StepSize	u16	R	Step size for +/- adjustment
IntType	u16	R	see chapter <a href="#">interpretation types</a>

**FineMinArray and FineMaxArray**

<Fieldname>	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	Bitmask LSB 0x00: not supported 0x01: value is adjustable 0x08: value is visible  <b>External applications can ignore this value.</b>
Current Value	u16	R	current value
NumberOfElements	u16	R	Number of valid elements in ParameterArray.
ParameterArray	u16	R	value list
IntType	u16	R	see chapter <a href="#">interpretation types</a>

### 24.3.3

*Get a list of all possible device settings*

Example of a GET on .../Settings/DeviceSettings/

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{
  "10000": {
    "href": "10000/"
  },
  "10004": {
    "href": "10004/"
  },
  "10022": {
    "href": "10022/"
  },
  "10023": {
    "href": "10023/"
  },
}
```

```
"10024":{  
    "href":"10024/"  
},  
"10025":{  
    "href":"10025/"  
},  
"10026":{  
    "href":"10026/"  
},  
"10027":{  
    "href":"10027/"  
}
```

All supported device settings are listed.

#### 24.3.4

##### Request a setting

###### Example without value list and ExtVal

GET .../Settings/DeviceSettings/<ID>/

```
HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>
```

```
{  
    "Id":16045,  
    "Validity":3,  
    "CurrentValue":55,  
    "Min":30,  
    "Max":55,  
    "Default":55,  
    "ListRef":0  
}
```

###### Example with value list

GET .../Settings/DeviceSettings/<ID>/

```
HTTP/1.1 200 OK
```

```
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
{
    "Id":10022,
    "Validity":1,
    "IntType":0,
    "CurrentValue":0,
    "Min":0,
    "Max":4,
    "Default":0,
    "ListRef":24,
    "StepSize":0,
    "ExtValue":false,
    "FineAdjusted":false,
    "ListRefData":{
        "Id":24,
        "ValidElements":4,
        "ValueList":[
            0,
            1,
            2,
            4,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0,
            0
        ]
    }
}
```

### Example with ExtValue == true

## GET .../Settings/DeviceSettings/&lt;ID&gt;/

HTTP/1.1 200 OK  
Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>

```
{  
    "Id":18138,  
    "Validity":2,  
    "IntType":0,  
    "CurrentValue":95,  
    "Min":14,  
    "Max":95,  
    "Default":60,  
    "ListRef":0,  
    "StepSize":1,  
    "ExtValue":true,  
    "FineAdjusted":false,  
    "ExtValueData":{  
        "Id":18138,  
        "Coarse":{  
            "RequestMask":9,  
            "CurrentValue":95,  
            "CurrentValueInfo":0,  
            "NumOfElements":9,  
            "ParameterArray": [  
                14,  
                20,  
                30,  
                40,  
                50,  
                60,  
                70,  
                80,  
                90,  
                0  
            ],  
            "ValueInfo": [  
                2,  
                0,  
                0,  
                0,  
                0,  
                0,  
                0,  
                0,  
                0  
            ],  
            "IntType":2  
        }  
    }  
}
```

```
},
"Fine": {
    "RequestMask": 9,
    "Min": 14,
    "Max": 95,
    "CurrentValue": 95,
    "StepSize": 1,
    "IntType": 2
},
"FineMinArray": {
    "RequestMask": 9,
    "CurrentValue": 95,
    "NumberOfElements": 0,
    "ParameterArray": [
        0,
        0,
        0,
        0,
        0,
        0,
        0,
        0,
        0
    ],
    "IntType": 2
},
"FineMaxArray": {
    "RequestMask": 9,
    "CurrentValue": 95,
    "NumberOfElements": 0,
    "ParameterArray": [
        0,
        0,
        0,
        0,
        0,
        0,
        0,
        0,
        0
    ],
    "IntType": 2
}
}
```

### 24.3.5

#### Write a device setting

Example Request:

```
PUT /.../Settings/DeviceSettings/18138/ HTTP/1.1
```

```
Host: HostNameDev
```

```
Accept: application/vnd.miele.v1+json
```

Body:

```
{
  "Id":18138,
  "CurrentValue":95
}
```

The setting ID 18138 gets the value 95.

For the prof Devices there is a special configuration. If the settings are written with "ExtValue=True" and there are values outboard the valuelist "FineAdjusted=True" will be send to otherwise it would end with an error.

PUT auf <http://{{IP}}/Devices/{{FabNr}}/Settings/DeviceSettings/12044>

Mit Body:

```
{
  "Id": 12044,
  "CurrentValue": 500,
  "FineAdjusted": true
}
```

causes:

204 No Content -> OK

### 24.3.6

#### Error Handling

see chapter [Error Handling ID 1336459](#)

### 24.3.7

## Interpretation Types

```
<EnumElement Name="GLOBAL_VALINT_NO_INTERPRETATION" Value="0">
  <Description>No interpretation type is set.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_PERCENT_VALUE" Value="1">
  <Description>Value in percent</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE1C_VALUE" Value="2">
  <Description>Temperature in steps of 1 degree Celsius. </Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE100C_VALUE" Value="3">
  <Description>Temperature in a hundredth of a degree Celsius.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE100F_VALUE" Value="4">
  <Description>Temperature in a hundredth of a Fahrenheit</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DURATIONSEC_VALUE" Value="5">
  <Description>Duration in seconds</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DURATIONMIN_VALUE" Value="6">
  <Description>Duration in minutes</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_STEP_VALUE" Value="7">
  <Description>numerical value</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WEIGHTGRAM_VALUE" Value="8">
  <Description>Weight in gram</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_NUMERICAL_VALUE" Value="9">
  <Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DATE" Value="10">
  <Description>Datum</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_MICROWAVE_POWER_STEPS" Value="11">
  <Description>MW-Leistung (Stufen)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_RF_POWER" Value="12">
  <Description>RF-Leistung</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_RF_ENERGY" Value="13">
  <Description>RF-Energiemenge</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_RF_MODE" Value="14">
  <Description>RF-MODE</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_BROWNING" Value="15">
  <Description>Braeuung</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DEGREE_OF_COOKING" Value="16">
```

```
<Description>Gargrad</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_FORMAT" Value="17">
<Description>time format 12h/24h</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_PRESENTATION" Value="18">
<Description>Zeitdarstellung Analog/Digital</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LANGUAGE" Value="19">
<Description>Sprache bzw. Dachsprache-Land</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_BURST_OF_STEAM" Value="20">
<Description>Dampfstoss</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DISPLAY_SCHEME" Value="21">
<Description>Farbschema der Anzeige</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DISPLAY_IN_STANDBY" Value="22">
<Description>Display im Standby</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LIGHTING" Value="23">
<Description>Beleuchtung</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE_UNIT" Value="24">
<Description>Temperatureinheit</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WEIGHT_UNIT" Value="25">
<Description>Gewichtseinheit</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_START_SCREEN" Value="26">
<Description>Hauptmenü, MyMiele, Profile, Getränke, ...</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WATER_HARDNESS" Value="27">
<Description>weich, mittel, hart, ...</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEST_STATE" Value="28">
<Description>CS test state: not active, active, finished successfully,finished with fault</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_UTC" Value="29">
<Description>time in utc format</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_VOLTAGEANDFREQUENCY" Value="30">
<Description>VoltageAndFrequency</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_STARTPOINT" Value="31">
<Description>VoltageAndFrequency</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ENDPOINT" Value="32">
<Description>VoltageAndFrequency</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_PARAMETER_SHAPE" Value="33">
<Description>Eigene Programme: Dauer, Kerntemp., Vorheizen</Description>
```

```
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_STARTPOINT_OR_RIGHT_NOW" Value="34">
<Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WATER_LEVEL_MMWS" Value="35">
<Description>Niveau in mmWs</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WATER_INLET_WAY" Value="36">
<Description>Wasserweg(z.B. Vorwaschfach)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DRUM_SPEED_RPM" Value="37">
<Description>Sollwert für Trommelbewegung(Drehen/Schleudern)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ON_OFF" Value="38">
<Description>Attribut zum Ein/Aus</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DOOR_SWITCH" Value="39">
<Description>Tuerschalter(Offen/Geschlossen)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DOOR_LOCK_SWITCH" Value="40">
<Description>Verriegelungsschalter(Entriegelt/Verriegelt)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WPS_SWITCH" Value="41">
<Description>WaterProofSensor(Offen/Geschlossen)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TWINDOS_CONTAINER1_SWITCH" Value="42">
<Description>Twindos-Behaelter-Schalter(Offen/Geschlossen)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TWINDOS_CONTAINER2_SWITCH" Value="43">
<Description>Twindos-Behaelter-Schalter(Offen/Geschlossen)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ECO_WATER_LITER" Value="44">
<Description>ECO Feedback value in liter </Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ECO_ENERGY_KWH" Value="45">
<Description>Eco Feedbacl value in kWh</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ECO_ENERGY_WATT" Value="46">
<Description>Eco Feedbacl value in Watt</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_STARTPOINT_ONLY_RIGHT_NOW" Value="47">
<Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE1F_VALUE" Value="48">
<Description>Temperature in 1 degree Fahrenheit.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DRUM_SPEED10_RPM" Value="49">
<Description>Drum speed in rpm/10</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_OPERATION_MODE" Value="50">
<Description>operation mode</Description>
</EnumElement>
```

```
<EnumElement Name="GLOBAL_VALINT_NAME" Value="51">
  <Description>for example program name</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_BACKGROUND" Value="52">
  <Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DISPLAY_BRIGHTNESS" Value="53">
  <Description>Display Brightness</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DISPLAY_CONTRAST" Value="54">
  <Description>Display contrast</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_VOLUME_SIGNAL_TONES_LEVEL" Value="55">
  <Description>Volume signal tone level</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_VOLUME_KEY_TONE" Value="56">
  <Description>Volume key level</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_MOTOE_POSITION_VALUE" Value="57">
  <Description>Door position (0 = undef; 1 = Pos1;2 = Pos2;3 = Pos3)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DOOR_EXT_OPENING_ENABLED_VALUE" Value="58">
  <Description>Open door via app permitted(allowed/not allowed)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WAW_POSITION_VALUE" Value="59">
  <Description>WAW position (0 = undef; 1 = TOP;2 = BOTTOM;3 = MID)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WAW_DIRECTION_VALUE" Value="60">
  <Description>WAW direction (0 = OFF; 1 = CW;2 = CCW)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_3_COOKING_SHELFs" Value="80">
  <Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_4_COOKING_SHELFs" Value="81">
  <Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_5_COOKING_SHELFs" Value="82">
  <Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_6_COOKING_SHELFs" Value="83">
  <Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_PERFORMANCEMODE" Value="90">
  <Description>For coffee systems. Performance-Mode (ECO, Espresso, Cappuccino, Party)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ALTITUDE" Value="91">
  <Description>For coffee systems. Altitude.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_PROFILECHANGE" Value="92">
  <Description>For coffee systems. Profil change setting.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_MICROWAVE_POWER" Value="96">
```

```
<Description>MW-Power in watts 80 – 1000</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_VARIANT" Value="97">
  <Description>Variant-ID</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_SENSORGROUP" Value="98">
  <Description>FSP-Sensorgroup 0 to n</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIMER_DAY_OF_WEEK_ASSIGNMENT" Value="99">
  <Description>Einstellung der Verwendeten Tage für die Auslösen der Timer(Bitfeld: Bit0=Mo, Bit1=Di, Bit2=Mi, etc.)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_UTC0" Value="100">
  <Description>Angabe des Startzeitpunktes der Timer nach UTC Zeit mit Offset 0 ohne Datum</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ACTIVE_USER" Value="101">
  <Description>Auswahl des aktiven Benutzers</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE_TEXT_VALUE" Value="102">
  <Description>The temperature value (in °C) should be displayed as text. For example, 60°C displayed as HOT.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WEIGHT_TENTH_OF_GRAM_VALUE" Value="103">
  <Description>tenth of a gram </Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_DISPLAY" Value="104">
  <Description>display clock in standby (0=off, 1=on, 2= off at night)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DEVICE_HEIGHT" Value="105">
  <Description>0=normal, 1=XXL</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DEVICE_WIDTH" Value="106">
  <Description>0=60/55cm, 1=45</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_AUTODOS_CARTRIDGE_TYPE" Value="107">
  <Description>0=non-refillable, 1=refillable</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_RINSE_AID_CAPACITY_ML" Value="108">
  <Description>ml</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_KNOCK2OPEN" Value="109">
  <Description>0=off, 1=1 impulse, 2=2 impulse</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_COUNTRY_VARIANT" Value="110">
  <Description>1=EU1, 2=AUS, 3=USA, 4=JAP, 5=EU2, 6 =EU3/CHINA</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_NETWORKING_COUNTRY" Value="111">
  <Description>1=EU, 2=USA, 3=JAP, 4=deactivated</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_COUNTRY_LANGUAGE" Value="112">
  <Description>country-language combination to support the settings for the translations AND the count-
```

```
ry specific automatic programs </Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LBS" Value="120">
<Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_ENERGY_WH" Value="121">
<Description>Watt hours</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_COOL_AIR_BLOWERS_FOLLOW_UP" Value="122">
<Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_COOKING_PROGRAM_ID" Value="123">
<Description>Menügaren</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_EXTEND" Value="124">
<Description>Weiterschalten-Option: Eigene Programme, Menügaren, ...)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_APPROXIMATION_LIGHT_OPTION" Value="125">
<Description/>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_BURSTS_OF_STEAM_TYPE" Value="126">
<Description>Anzahl und Art des/der Dampfstöße</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LBS100" Value="127">
<Description>Mass in a hundredth of a lbs/pound.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DURATIONSEC_VALUE_OR_UNDEFINED" Value="128">
<Description>Duration in seconds or undefined (== 0)</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WATER_HARDNESS_DH" Value="129">
<Description>Water Hardness in degree-dH</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_FLOW_ML_MIN" Value="130">
<Description>Flow in ml/min</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TIME_IN_100MS" Value="131">
<Description>Time in 100 ms</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_CONCENTRATION_VALUE" Value="132">
<Description>Concentration of cleanser in %/100. I.e. 0,2 % is represented as 20.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_WATERSOURCE" Value="133">
<Description>Mains water or pump</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMP_CALIBRATION" Value="134">
<Description>temperature calibration 1-7</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_FOOD_PROBE_SELECTION" Value="135">
<Description>Select one of the possible food probes</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_FOOD_PROBE_SERIAL_NUMBER" Value="136">
<Description>Set serial number of a new food probe</Description>
```

```

</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LIQUID_QUANTITY_LITERS" Value="137">
  <Description>Amount of fluid in [liters]</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LIQUID_QUANTITY_100_MILLILITERS" Value="138">
  <Description>Amount of fluid in [100 milliliters]</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LIQUID_QUANTITY_MILLILITERS" Value="139">
  <Description>Amount of fluid in [milliliters]</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_DAY" Value="140">
  <Description>Day counter</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_PROGRAM" Value="141">
  <Description>Program counter</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_SPIN_SPEED10_RPM_TEXT_VALUE" Value="142">
  <Description>The spin speed in rpm/10 should be displayed as text. For example, 120 (1200U/Min) displayed as High.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_PERCENT10_VALUE" Value="143">
  <Description>Value in steps of ten percent</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_TEMPERATURE10C_VALUE" Value="144">
  <Description>Temperature in tenth degree celsius.</Description>
</EnumElement>
<EnumElement Name="GLOBAL_VALINT_LIQUID_QUANTITY_500_MILLILITERS" Value="145">
  <Description>Amount of fluid in [500 milliliters]</Description>
</EnumElement>

```

### 24.3.8

#### List of possible settings

ID	Name	Description
0	GLOBAL_SF_ID_GLOBAL_NONE	PF_ID_KEINE
10000	GLOBAL_SF_ID_LANGUAGE	PF_ID_SPRACHE
10001	GLOBAL_SF_ID_DISPLAY_BRIGHTNESS	DISPLAY_HELLIGKEIT
10002	GLOBAL_SF_ID_DISPLAY_CONTRAST	DISPLAY_KONTRAST
10003	GLOBAL_SF_ID_VOLUME_SIGNAL_TONE	LAUTSTAERKE_SIGNALTON
10004	GLOBAL_SF_ID_VOLUME_KEY_TONE	LAUTSTAERKE_TASTENTON
10005	GLOBAL_SF_ID_TIME_DISPLAY	ZEIT_ANZEIGE

1000 6	GLOBAL_SF_ID_TIME_PRESENTATION	ZEIT_DARSTELLUNG
1000 7	GLOBAL_SF_ID_TIME_BACKGROUND	ZEIT_HINTERGRUND
1000 8	GLOBAL_SF_ID_TIME_FORMAT	ZEIT_FORMAT
1000 9	GLOBAL_SF_ID_TIME_ALLOW_SYNCHRONIZATION	ZEIT_SYNCHRONISIEREN_ZULASSEN
1001 0	GLOBAL_SF_ID_WATER_HARDNESS	WASSERHAERTE
1001 1	GLOBAL_SF_ID_SUPERVISION_DISPLAY	SUPERVISION_ANZEIGE
1001 2	GLOBAL_SF_ID_SUPERVISION_RTC_ACTIVE	SUPERVISION_UHRZEITGEBER_AKTIV
1001 3	GLOBAL_SF_ID_DEMO_PROGRAMME_ACTIVE	MESSESCHALTUNG_AKTIV
1001 4	GLOBAL_SF_ID_STARTUP_LOCK_ACTIVE	INBETRIEBNAHMESPERRE_AKTIV
1001 5	GLOBAL_SF_ID_REMOTECONTROL_UNLOCKED	REMOTECONTROL_FREIGEGEBEN
1001 6	GLOBAL_SF_ID_REMOTECONTROL_ACTIVATED	REMOTECONTROL_AKTIVIERT
1001 7	GLOBAL_SF_ID_WELCOME_SOUND_ACTIVE	BEGRUESSUNGSMELODIE_AKTIV
1002 0	GLOBAL_SF_ID_DACH_LANGUAGE_COUNTRY	DACHSPRACHELAND
1002 1	GLOBAL_SF_ID_MYMIELE_DISPLAY	MYMIELE_ANZEIGE
1002 2	GLOBAL_SF_ID_GLOBAL_PAYMENT_SYSTEM	PF_ID_KASSIERER_KOM_MODUL
1002 3	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_OVERRIDING_TIME	PF_ID_MUENZER_UEBERLAGERUNGSZEIT
1002 4	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_LOCK	PF_ID_KASSIERERVERRIEGELUNG
1002 5	GLOBAL_SF_ID_GLOBAL_PAID_SIGNAL_DELETE	PF_ID_LOESCHEN_BEZAHL SIGNAL
1002 6	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_TIME_IMPULSE	PF_ID_MUENZER_ZEITIMPULS
1002 7	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_FEEDBACK_SIGNAL	PF_ID_MUENZER_SIGNAL_PIN_7
1002 8	GLOBAL_SF_ID_GLOBAL_FREE_OF_COST_PROGS	PF_ID_KOSTENFREIE_PROGRAMME_ERLAUBEN
1002 9	GLOBAL_SF_ID_GLOBAL_PEAK_LOAD_SIGNAL	PF_ID_SPITZENLASTSIGNAL
1003 0	GLOBAL_SF_ID_GLOBAL_PEAK_LOAD_IGNORE	PF_ID_SPITZENLAST_VERHINDERN
1003 1	GLOBAL_SF_ID_GLOBAL_PAID_SIGNAL_DEBOUNCING	PF_ID_MUENZER_SIGNAL_ENTPRELLUNG
1003 2	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_OVERRIDING_TIME_ACTIVE	PF_ID_MUENZER_UEBERLAGERUNGSZEIT_AKTIV
1003 3	GLOBAL_SF_ID_GLOBAL_MAINTENANCE_INTERVAL	PF_ID_SERVICEINTERVALL
1003 4	GLOBAL_SF_ID_GLOBAL_MAINTENANCE_INTERVAL_TIME	PF_ID_SERVICEINTERVALL_ZEIT
1003 5	GLOBAL_SF_ID_GLOBAL_TEMPERATURE_UNIT	PF_ID_TEMPERATUREINHEIT
1003 6	GLOBAL_SF_ID_GLOBAL_WEIGHT_UNIT	PF_ID_GEWICHTSEINHEIT
1003 7	GLOBAL_SF_ID_GLOBAL_BASE_COSTS_ELECTRICITY_PRE_DECIMAL	PF_ID_GRUNDKOSTEN_STROM_VORKOMMAWERT
1003 8	GLOBAL_SF_ID_GLOBAL_BASE_COSTS_ELECTRICITY_DECIMAL	PF_ID_GRUNDKOSTEN_STROM_NACHKOMMAWERT
1003 9	GLOBAL_SF_ID_GLOBAL_LANGUAGE_FAVOURITE_1	PF_ID_SPRACHE_FAVORIT_1
1004 0	GLOBAL_SF_ID_GLOBAL_LANGUAGE_FAVOURITE_2	PF_ID_SPRACHE_FAVORIT_2
1004 1	GLOBAL_SF_ID_GLOBAL_LANGUAGE_FAVOURITE_3	PF_ID_SPRACHE_FAVORIT_3

1004 2	GLOBAL_SF_ID_GLOBAL_LANGUAGE_FAVOURITE_4	PF_ID_SPRACHE_FAVORIT_4
1004 3	GLOBAL_SF_ID_GLOBAL_LANGUAGE_FAVOURITE_5	PF_ID_SPRACHE_FAVORIT_5
1004 4	GLOBAL_SF_ID_GLOBAL_LANGUAGE_FAVOURITE_6	PF_ID_SPRACHE_FAVORIT_6
1004 5	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_FEEDBACK_SIGNAL_TEMPERATURE	PF_ID_MUENZER_SIGNAL_PIN_7_PROZESSTEMP
1004 6	GLOBAL_SF_ID_GLOBAL_LOAD_WEIGHT_INPUT	PF_ID_GEWICHTSEINGABE
1004 7	GLOBAL_SF_ID_GLOBAL_PAY_SYSTEM_FEEDBACK_SIGNAL_TEMPERATURE_FA HRENHEIT	PF_ID_MUENZER_SIGNAL_PIN_7_PROZESSTEMP_FAHRENHEI T
1004 8	GLOBAL_SF_ID_GLOBAL_EXTERNAL_PROGRAM_LOCK	PF_ID_EXTERNE_PROGRAMMSPERRE
1004 9	GLOBAL_SF_ID_GLOBAL_MACHINE_TYPE	PF_ID_MASCHINENTYP
1200 5	GLOBAL_SF_ID_WM_CONTAINER_1_DETERGENT_TYPE	WA_PF_ID_DOSIEREINHEIT_1_WASCHMITTELART
1200 6	GLOBAL_SF_ID_WM_CONTAINER_1_AMOUNT_SETTINGS	WA_PF_ID_DOSIEREINHEIT_1_WASCHMITTELMENGE
1200 7	GLOBAL_SF_ID_WM_CONTAINER_2_DETERGENT_TYPE	WA_PF_ID_DOSIEREINHEIT_2_WASCHMITTELART
1200 8	GLOBAL_SF_ID_WM_CONTAINER_2_AMOUNT_SETTINGS	WA_PF_ID_DOSIEREINHEIT_2_WASCHMITTELMENGE
1200 9	GLOBAL_SF_ID_WM_DEGREE_OF_SOILING_DEFAULT_VALUE	WA_PF_ID_VERSCHMUTZUNGSGRAD_VOREINSTELLUNG
1201 0	GLOBAL_SF_ID_WM_DEGREE_OF_SOILING_QUERY_ACTIVATION	WA_PF_ID_VERSCHMUTZUNGSGRAD_ABFRAGE
1201 1	GLOBAL_SF_ID_WM_CLOCK_FORMAT	WA_PF_ID_TAGESZEIT_ZEITFORMAT
1201 2	GLOBAL_SF_ID_WM_DAYTIME_SYNCHRONISE	WA_PF_ID_TAGESZEIT_SYNCHRONISIEREN
1201 3	GLOBAL_SF_ID_WM_BASE_COSTS_WATER_PRE_DECIMAL	WA_PF_ID_GRUNDKOSTEN_WASSER_VORKOMMAWERT
1201 4	GLOBAL_SF_ID_WM_BASE_COSTS_WATER_DECIMAL	WA_PF_ID_GRUNDKOSTEN_WASSER_NACHKOMMAWERT
1201 5	GLOBAL_SF_ID_WM_BUZZER_VOLUME	WA_PF_ID_SUMMERLAUTSTAERKE
1201 6	GLOBAL_SF_ID_WM_KEYPAD_TONE	WA_PF_ID_TASTENTON
1201 7	GLOBAL_SF_ID_WM_PINCODE	WA_PF_ID_PINCODE
1201 8	GLOBAL_SF_ID_WM_PINCODE_DIGIT_1	WA_PF_ID_PINCODE_ZIFFER_1
1201 9	GLOBAL_SF_ID_WM_PINCODE_DIGIT_2	WA_PF_ID_PINCODE_ZIFFER_2
1202 0	GLOBAL_SF_ID_WM_PINCODE_DIGIT_3	WA_PF_ID_PINCODE_ZIFFER_3
1202 1	GLOBAL_SF_ID_WM_UNIT_OF_TEMPERATUR	WA_PF_ID_TEMPERATUREINHEIT
1202 2	GLOBAL_SF_ID_WM_DISPLAY_BRIGHTNESS	WA_PF_ID_HELLIGKEIT_DISPLAY
1202 3	GLOBAL_SF_ID_WM_LIGHTFIELD_BRIGHTNESS	WA_PF_ID_HELLIGKEIT_LICHTFELDER
1202 4	GLOBAL_SF_ID_WM_DISPLAY_CONTRAST	WA_PF_ID_KONTRAST
1202 5	GLOBAL_SF_ID_WM_DISPLAY_SWITCH_OFF	WA_PF_ID_AUSSCHALTVERHALTEN_ANZEIGE_DUNKEL
1202 6	GLOBAL_SF_ID_WM_APPLIANCE_SWITCH_OFF	WA_PF_ID_AUSSCHALTVERHALTEN_GERAETEABSCHALTUNG
1202 7	GLOBAL_SF_ID_WM_MEMORY	WA_PF_ID_MEMORY
1202 8	GLOBAL_SF_ID_WM_WATER_INLET	WA_PF_ID_WASSERZULAUF
1202 9	GLOBAL_SF_ID_WM_LONGER_PREWASH_COTTONS	WA_PF_ID_ZUSAETZLICHE_VORWASCHZEIT_BAUMWOLLE
1203 0	GLOBAL_SF_ID_WM_SOAK_DURATION	WA_PF_ID_EINWEICHZEIT

1203 1	GLOBAL_SF_ID_WM_GENTLE_ACTION	WA_PF_ID_SCHONGANG
1203 2	GLOBAL_SF_ID_WM_TEMPERATURE_REDUCTION	WA_PF_ID_TEMPERATURABSENKUNG
1203 3	GLOBAL_SF_ID_WM_WATER_PLUS	WA_PF_ID_WASSER_PLUS
1203 4	GLOBAL_SF_ID_WM_WATER_PLUS_LEVEL	WA_PF_ID_NIVEAU_WASSER_PLUS
1203 5	GLOBAL_SF_ID_WM_MAXIMUM_RINSE_LEVEL	WA_PF_ID_MAXIMALES_SPUELNIVEAU
1203 6	GLOBAL_SF_ID_WM_SUDS_COOLING	WA_PF_ID_LAUGENABKUEHLUNG
1203 7	GLOBAL_SF_ID_WM_ANTICREASE	WA_PF_ID_KNITTERSCHUTZ
1203 8	GLOBAL_SF_ID_WM_DELAY_START	WA_PF_ID_STARTVORWAHL
1203 9	GLOBAL_SF_ID_WM_REMOTE_CONTROL	WA_PF_ID_FERNSTEUERUNG
1204 0	GLOBAL_SF_ID_WM_LOAD_DOSAGE	WA_PF_ID_BELADUNG_DOSIERUNG
1204 1	GLOBAL_SF_ID_WM_DISPLAY_MAXIMUM_LOAD	WA_PF_ID_ANZEIGE_MAX_BELADUNG
1204 3	GLOBAL_SF_ID_WM_HEATER_RATING_KW	WA_PF_ID_HEIZLEISTUNG
1204 4	GLOBAL_SF_ID_WM_MAXIMUM_SPIN_SPEED	WA_PF_ID_MAXIMALE_DREHZAHL
1204 5	GLOBAL_SF_ID_WM_IMBALANCE_SENSOR	WA_PF_ID_UNWUCHTSENSOR
1204 6	GLOBAL_SF_ID_WM_AUTO_DISPENSING	WA_PF_ID_AUTOMATISCHE_DOSIERUNG
1204 7	GLOBAL_SF_ID_WM_MAINS_FREQUENCY	WA_PF_ID_NETZFREQUENZ
1204 8	GLOBAL_SF_ID_WM_STEAM	WA_PF_ID_DAMPF
1204 9	GLOBAL_SF_ID_WM_DRAIN_HEIGHT	WA_PF_ID_ABPUMPHOEHE
1205 0	GLOBAL_SF_ID_WM_INTENSIVE_FLOW	WA_PF_ID_INTENSIVFLUTUNG
1205 1	GLOBAL_SF_ID_WM_VOLUME_FLOWMETER_COLD	WA_PF_ID_VOLUMENSTROMZAEHLER_KALT
1205 2	GLOBAL_SF_ID_WM_LOW_WATER_PRESSURE	WA_PF_ID_NIEDRIGER_WASSERDRUCK
1205 3	GLOBAL_SF_ID_WM_AUTO_LOAD_CONTROL	WA_PF_ID_MENGENAUTOMATIK
1205 4	GLOBAL_SF_ID_WM_CONTROLLED_ENERGIE_CON	WA_PF_ID_GESTEUERTER_ENERGIEVERBRAUCH
1205 5	GLOBAL_SF_ID_WM_TEMPERATURE_INCREASE	WA_PF_ID_TEMPERATURERHOEHUNG
1205 6	GLOBAL_SF_ID_WM_REDUCE_SPIN_SPEED	WA_PF_ID_DREHZAHLREDUZIERUNG
1205 7	GLOBAL_SF_ID_WM_ALLERGY	WA_PF_ID_ALLERGIKER
1205 8	GLOBAL_SF_ID_WM_CHLORINE_BLEACH	WA_PF_ID_CHLORBLEICHE
1205 9	GLOBAL_SF_ID_WM_RESONAT_SPEED	WA_PF_ID.ResonanzDrehzahl
1206 0	GLOBAL_SF_ID_WM_COMPRESSED_LAUNDRY	WA_PF_ID_WAESCHEZIPFELERKENNTUNG
1206 1	GLOBAL_SF_ID_WM_SMARTGRID	WA_PF_ID_SMART_GRID
1206 3	GLOBAL_SF_ID_WM_MIP_CALIBRATION_INITIAL_STARTUP	WA_PF_ID_MTV_KALIBRIERUNG_ERSTINBETRIEBAHME
1206 4	GLOBAL_SF_ID_WM_WATER_PATH	WA_PF_ID_WASSERWEG
1206 5	GLOBAL_SF_ID_WM_MAXIMUM_SPIN_SPEED_OFFSET	WA_PF_ID_MAXIMALE_DREHZAHL_OFFSET
1206 6	GLOBAL_SF_ID_WM_COUNTRY_VERSION	WA_PF_ID_LAENDERVERSION

1206 7	GLOBAL_SF_ID_WM_PREWASH_WATER	WA_PF_ID_WASSER_VORWAESCHE
1206 8	GLOBAL_SF_ID_WM_WATER_MAIN_WASH	WA_PF_ID_WASSER_HAUPTWAESCHE
1206 9	GLOBAL_SF_ID_WM_FIRST_RINSE_WATER	WA_PF_ID_WASSER_ERSTES_SPUELEN
1207 0	GLOBAL_SF_ID_WM_FINAL_RINSE_WATER	WA_PF_ID_WASSER_LETZTES_SPUELEN
1207 1	GLOBAL_SF_ID_WM_EMPTY_SENSOR	WA_PF_ID_LEER_SENSIERUNG
1207 2	GLOBAL_SF_ID_WM_WATERLEVEL_COTTONS	WA_PF_ID_NIVEAU_KOCH_BUNT
1207 3	GLOBAL_SF_ID_WM_WATERLEVEL_MIN_IRON	WA_PF_ID_NIVEAU_PFLEGELEICHT
1207 4	GLOBAL_SF_ID_WM_PREWASH_TEMP_COTTONS	WA_PF_ID_TEMP_VORW_KB
1207 5	GLOBAL_SF_ID_WM_WASH_TIME_COTTONS	WA_PF_ID_WASCHZEIT_KB
1207 6	GLOBAL_SF_ID_WM_WASH_TIME_MIN_IRON	WA_PF_ID_WASCHZEIT_PFL
1207 7	GLOBAL_SF_ID_WM_PRERINSE_COTTONS	WA_PF_ID_VORSPUELEN_KB
1207 8	GLOBAL_SF_ID_WM_PRERINSE_MIN_IRON	WA_PF_ID_VORSPUELEN_PFL
1207 9	GLOBAL_SF_ID_WM_PREWASH_COTTONS_MINIMUM_IRONS	WA_PF_ID_VORWAESCHE_KB_PFL
1208 0	GLOBAL_SF_ID_WM_RINSES_COTTONS	WA_PF_ID_SPUELGAENGE_KB
1208 1	GLOBAL_SF_ID_WM_RINSES_MIN_IRON	WA_PF_ID_SPUELGAENGE_PFL
1208 2	GLOBAL_SF_ID_WM_DISINFECTION_RINSE	WA_PF_ID_DESINFektIONSSPUELEN
1208 4	GLOBAL_SF_ID_WM_CAP_DOSING	WA_PF_ID_CAP_DOSIERUNG
1208 5	GLOBAL_SF_ID_WM_PRE_IRONING	WA_PF_ID_VORBUEGELN
1208 6	GLOBAL_SF_ID_WM_HYGIENE	WA_PF_ID_HYGIENE
1208 7	GLOBAL_SF_ID_WM_STANDARD	WA_PF_ID_NORM
1208 8	GLOBAL_SF_ID_WM_ALTERNATING_CURRENT	WA_PF_ID_DREHSTROM
1208 9	GLOBAL_SF_ID_WM_HEATER_RATING	WA_PF_ID_HEIZUNG
1209 0	GLOBAL_SF_ID_WM_DRAINAGE_SEE	WA_PF_ID_ABLAUF
1209 1	GLOBAL_SF_ID_WM_LYEPUMP_CLEANING	WA_PF_ID_LP_REINIGUNG
1209 2	GLOBAL_SF_ID_WM_FAULT_ALARM	WA_PF_ID_FEHLERSUMMER
1209 3	GLOBAL_SF_ID_WM_DROPPED_PROGRAMS	WA_PF_ID_ABGEWAELTE_PROGRAMME
1209 4	GLOBAL_SF_ID_WM_LAUNDRY_RING_PROTECTION	WA_PF_ID_WAESCHERINGSCHUTZ
1209 5	GLOBAL_SF_ID_WM_LAUNDRY_RING_DETECTION	WA_PF_ID_WAESCHERINGSENSIERUNG
1209 6	GLOBAL_SF_ID_WM_COOLING_WATER_INTAKE	WA_PF_ID_KUEHLWASSERZULAUF
1209 7	GLOBAL_SF_ID_WM_DRUM_OVERLOADED	WA_PF_ID_UEBERLADEN
1209 8	GLOBAL_SF_ID_WM_TIME_EXTENSION	WA_PF_ID_ZEITNACHSCHUB
1209 9	GLOBAL_SF_ID_WM_MOPS_WATER_DRAIN	WA_PF_ID_MOPP_ENTWAESSERN
1210 0	GLOBAL_SF_ID_WM_PRETREAT_CLEANING_CLOTHS	WA_PF_ID_AUSRUESTEN_TUECHER
1210 1	GLOBAL_SF_ID_WM_PINCODE_SUPERVISOR_LEVEL	WA_PF_ID_PINCODE_BETREIBEREBENE

1210_2	GLOBAL_SF_ID_WM_MIELE_AT_HOME	WA_PF_ID_VERNETZUNG
1210_3	GLOBAL_SF_ID_WM_PINCODE_CANCEL_PROGRAM	WA_PF_ID_PINCODE_PROGRAMMABBRUCH
1210_4	GLOBAL_SF_ID_WM_MOPS_TEMPERATURE_STD_PLUS	WA_PF_ID_MOPP_TEMP_STANDARD_PLUS
1210_5	GLOBAL_SF_ID_WM_MOPS_CHTH_DISIN	WA_PF_ID_MOPP_CHTHDES_VERFAHREN
1210_6	GLOBAL_SF_ID_WM_MOPS_TH_DISIN	WA_PF_ID_MOPP_TH_DES_VERFAHREN
1210_7	GLOBAL_SF_ID_WM_MOPS_MICROFIBER	WA_PF_ID_MOPP_MICROFASER
1210_8	GLOBAL_SF_ID_WM_PRETREAT_MOPS_RPM	WA_PF_ID_MOPP_PRAEP_SCHLEUDERDREHZAHLD
1210_9	GLOBAL_SF_ID_WM_CLEANING_CLOTHS_TEMPERATURE_STD_PLUS	WA_PF_ID_TUECHER_TEMP_STANDARD_PLUS
1211_0	GLOBAL_SF_ID_WM_CLEANING_CLOTHS_DISINFECTION	WA_PF_ID_TUECHER_CHTHDES_VERFAHREN
1211_1	GLOBAL_SF_ID_WM_PRETREAT_CLEANING_CLOTHS_RPM	WA_PF_ID_TUECHER_PRAEP_SCHLEUDERDREHZAHLD
1211_2	GLOBAL_SF_ID_WM_EARLY_WARNING_COUNTER	WA_PF_ID_FRUEHWARNZAEHLER
1211_3	GLOBAL_SF_ID_WM_TIME_OF_DAY	WA_PF_ID_TAGESZEIT_UHRZEIT
1211_4	GLOBAL_SF_ID_WM_DISPLAY_PROGRAMNAME	WA_PF_ID_ANZEIGE_PROGRAMMNAME
1211_5	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_SPORTS	WA_PF_ID_PROGRAMMPAKET_SPORT
1211_6	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_OUTERWEAR	WA_PF_ID_PROGRAMMPAKET_OUTDOOR
1211_7	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_WELLNESS_HAIR_SALONS	WA_PF_ID_PROGRAMMPAKET_WELLNESS_FRISEUR
1211_8	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_HOTEL	WA_PF_ID_PROGRAMMPAKET_HOTEL
1211_9	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_SOFT_FURNISHINGS	WA_PF_ID_PROGRAMMPAKET_HEIMTEXTILIEN
1212_0	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_WORKWEAR	WA_PF_ID_PROGRAMMPAKET_ARBEITSTEXTILIEN
1212_1	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_DESINFECTION_GER	WA_PF_ID_PROGRAMMPAKET_DESINFektION_DE
1212_2	GLOBAL_SF_ID_WM_VOLUME_FLOWMETER_WARM	WA_PF_ID_VOLUMENSTROMZAEHLER_WARM
1212_3	GLOBAL_SF_ID_WM_CONSUMPTION_DATA	WA_PF_ID_VERBRAUCHSANZEIGE
1212_4	GLOBAL_SF_ID_WM_BRIGHTNESS_LIGHTFIELD_DIMMED	WA_PF_ID_HELLIGKEIT_LICHTFELDER_GEDIMMT
1212_5	GLOBAL_SF_ID_WM_TYPE_OF_DAMPER	WA_PF_ID_DAEMPFERTYP
1212_6	GLOBAL_SF_ID_WM_CUSTOMER_SERVICE	WA_PF_ID_KD_SERVICE
1212_7	GLOBAL_SF_ID_WM_IMPULSE_PER_LITER_FLOWMETER_COLD	WA_PF_ID_IMPULSE_VOLUMENSTROMZAEHLER_KALT
1212_8	GLOBAL_SF_ID_WM_IMPULSE_PER_LITER_FLOWMETER_WARM	WA_PF_ID_IMPULSE_VOLUMENSTROMZAEHLER_WARM
1212_9	GLOBAL_SF_ID_WM_CAP_DETECTION	WA_PF_ID_CAP_ERKENNUNG
1213_0	GLOBAL_SF_ID_WM_GREETING	WA_PF_ID_BEGRUSSUNG
1213_1	GLOBAL_SF_ID_WM_PROGRAM_INFO	WA_PF_ID_PROGRAMMINFO
1213_2	GLOBAL_SF_ID_WM_DEMO_MODE	WA_PF_ID_DEMOMODUS
1213_3	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_STANDARD	WA_PF_ID_PROGRAMMPAKET_STANDARD
1213_4	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_PRE_TREAT_MOPS	WA_PF_ID_PROGRAMMPAKET_PRAEPARIEREN_MOPP
1213_5	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_CLEANING_CLOTHS	WA_PF_ID_PROGRAMMPAKET_PRAEPARIEREN_TUECHER

1213 6	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_READY_TO_USE	WA_PF_ID_PROGRAMMPAKET_READY_TO_USE
1213 7	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_BASIC_PROGRAMMES	WA_PF_ID_PROGRAMMPAKET_GRUNDPROGRAMME
1213 8	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_DESINFECTION_RKI	WA_PF_ID_PROGRAMMPAKET_DESINFektION_RKI
1213 9	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_LAUNDRY_REGULATION	WA_PF_ID_PROGRAMMPAKET_LAUNDRY_REGULATION_CFP_P_01_04
1214 0	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_DESINFECTION	WA_PF_ID_PROGRAMMPAKET_DESINFektION
1214 1	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_FURTHER_PROGRAMMES	WA_PF_ID_PROGRAMMPAKET_WEITERE_PROGRAMME
1214 2	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_WETCARE	WA_PF_ID_PROGRAMMPAKET_WETCARE
1214 3	GLOBAL_SF_ID_WM_REMOTEUPDATE	WA_PF_ID_REMOTE_UPDATE
1214 4	GLOBAL_SF_ID_WM_UNDERVOLTAGE_POWERDOWN_LEVEL	WA_PF_ID_UNTERSPANNUNG_AUSSCHALTSCHWELLE
1214 5	GLOBAL_SF_ID_WM_UNDERVOLTAGE_POWERON_LEVEL	WA_PF_ID_UNTERSPANNUNG_EINSCHALTSCHWELLE
1214 6	GLOBAL_SF_ID_WM_VOLTAGE_POWERDOWN_LEVEL	WA_PF_ID_SPANNUNG_AUSSCHALTSCHWELLE
1214 7	GLOBAL_SF_ID_WM_VOLTAGE_POWERON_LEVEL	WA_PF_ID_SPANNUNG_EINSCHALTSCHWELLE
1214 8	GLOBAL_SF_ID_WM_CANCELING_PROGRAM_VIA_PINCODE	WA_PF_ID_PROGRAMMabbrUCH_ueber_PINCODE
1214 9	GLOBAL_SF_ID_WM_CLEANING_CLOTHS_TH_DISIN	WA_PF_ID_TH_des_tuecher
1215 1	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_HYGIENE	WA_PF_ID_PROGRAMMPAKET_HYGIENE
1215 2	GLOBAL_SF_ID_WM_HYBRID_MODE	WA_PF_ID_HYBRID_MODE
1215 3	GLOBAL_SF_ID_WM_ADJUSTMENT_DOSING_RELAYS_1	WA_PF_ID_ADJUSTMENT_DOSING_RELAYS_1
1215 4	GLOBAL_SF_ID_WM_ADJUSTMENT_DOSING_RELAYS_2	WA_PF_ID_ADJUSTMENT_DOSING_RELAYS_2
1215 5	GLOBAL_SF_ID_WM_ADJUSTMENT_DOSING_RELAYS_3	WA_PF_ID_ADJUSTMENT_DOSING_RELAYS_3
1215 6	GLOBAL_SF_ID_WM_ADJUSTMENT_DOSING_RELAYS_4	WA_PF_ID_ADJUSTMENT_DOSING_RELAYS_4
1215 7	GLOBAL_SF_ID_WM_ADJUSTMENT_DOSING_RELAYS_5	WA_PF_ID_ADJUSTMENT_DOSING_RELAYS_5
1215 8	GLOBAL_SF_ID_WM_ADJUSTMENT_DOSING_RELAYS_6	WA_PF_ID_ADJUSTMENT_DOSING_RELAYS_6
1215 9	GLOBAL_SF_ID_WM_PROGRAMMEND_TONE	WA_PF_ID_PROGRAMMENDE_TON
1216 0	GLOBAL_SF_ID_WM_LANGUAGE_ACCESS	WA_PF_ID_SPRACHEINSTIEG
1216 1	GLOBAL_SF_ID_WM_SET_LANGUAGES	WA_PF_ID_SPRACHEN_FESTLEGEN
1216 2	GLOBAL_SF_ID_WM_DATE_FORMAT	WA_PF_ID_DATUMSFORMAT
1216 3	GLOBAL_SF_ID_WM_VOLUME_END_TONE	WA_PF_ID_LAUTSTAERKE_ENDETTON
1216 4	GLOBAL_SF_ID_WM_VOLUME_KEY_TONE	WA_PF_ID_LAUTSTAERKE_TASTENTON
1216 5	GLOBAL_SF_ID_WM_VOLUME_GREETING_TONE	WA_PF_ID_LAUTSTAERKE_BEGRUESSUNGSTON
1216 6	GLOBAL_SF_ID_WM_VISIBILITY_REVOLUTIONS	WA_PF_ID_SICHTBARKEIT_DREHZAHL
1216 7	GLOBAL_SF_ID_WM_VISIBILITY_TEMPERATURE	WA_PF_ID_SICHTBARKEIT_TEMPERATUR
1216 8	GLOBAL_SF_ID_WM_VISIBILITY_PRERINSE	WA_PF_ID_SICHTBARKEIT_VORSPUelen
1216 9	GLOBAL_SF_ID_WM_VISIBILITY_PREWASH	WA_PF_ID_SICHTBARKEIT_VORWAESCHE
1217 0	GLOBAL_SF_ID_WM_VISIBILITY_SOAK	WA_PF_ID_SICHTBARKEIT_EINWEICHEN

1217 1	GLOBAL_SF_ID_WM_VISIBILITY_INTENSE	WA_PF_ID_SICHTBARKEIT_INTENSIV
1217 2	GLOBAL_SF_ID_WM_VISIBILITY_WATER_PLUS	WA_PF_ID_SICHTBARKEIT_WASSERPLUS
1217 3	GLOBAL_SF_ID_WM_VISIBILITY_RINSE_PLUS	WA_PF_ID_SICHTBARKEIT_SPUELENPLUS
1217 4	GLOBAL_SF_ID_WM_VISIBILITY_RINSE_STOP	WA_PF_ID_SICHTBARKEIT_SPUELSTOP
1217 5	GLOBAL_SF_ID_WM_VISIBILITY_STARCH_STOP	WA_PF_ID_SICHTBARKEIT_STAERKESTOP
1217 6	GLOBAL_SF_ID_WM_VISIBILITY_PREIRON	WA_PF_ID_SICHTBARKEIT_VORBUEGELN
1217 7	GLOBAL_SF_ID_WM_VISIBILITY_CAP	WA_PF_ID_SICHTBARKEIT_CAP
1217 8	GLOBAL_SF_ID_WM_VISIBILITY_AUTODOS	WA_PF_ID_SICHTBARKEIT_AUTODOS
1217 9	GLOBAL_SF_ID_WM_VISIBILITY_LOAD_QUANTITY	WA_PF_ID_SICHTBARKEIT_BELADUNGSMENGE
1218 0	GLOBAL_SF_ID_WM_EXTRA_AUTODOS	WA_PF_ID_EXTRA_AUTODOS
1218 1	GLOBAL_SF_ID_WM_DISPLAY_SHUTDOWN	WA_PF_ID_AUSSCHALTEN_ANZEIGE
1218 2	GLOBAL_SF_ID_WM_DEVICE_SHUTDOWN	WA_PF_ID_AUSSCHALTEN_GERAET
1218 3	GLOBAL_SF_ID_WM_WEIGHT_UNIT	WA_PF_ID_GEWICHTSEINHEIT
1218 4	GLOBAL_SF_ID_WM_LOGO	WA_PF_ID_LOGO
1218 5	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_LABEL	WA_PF_ID_PROGRAMMPAKET_LABEL
1218 6	GLOBAL_SF_ID_WM_ARRANGE_PROGRAMS	WA_PF_ID_PROGRAMME_ANORDNEN
1218 7	GLOBAL_SF_ID_WM_COLOR_ASSIGNMENT_PROGRAM	WA_PF_ID_FARBUORDNUNG_PROGRAMM
1218 8	GLOBAL_SF_ID_WM_PINCODE_DESINFECTION_PROGRAM	WA_PF_ID_CODE_DESINFektionsPROGRAMM
1218 9	GLOBAL_SF_ID_WM_WASH_TIME_VORWASH_COTTONS	WA_PF_ID_WASCHZEIT_VORWAESCHE_KB
1219 0	GLOBAL_SF_ID_WM_SERVICE_INTERVALL_SETTING	WA_PF_ID_SERVICEINTERVALL_EINSTELLUNG
1219 1	GLOBAL_SF_ID_WM_SERVICE_INTERVALL_INDICATION	WA_PF_ID_SERVICEINTERVALL_MELDUNG
1219 2	GLOBAL_SF_ID_WM_SERVICE_INTERVALL_DISPLAY_RESET	WA_PF_ID_SERVICEINTERVALL_ANZEIGE_RUECKSETZEN
1219 3	GLOBAL_SF_ID_WM_DOOR_UNLOCK_AFTER_IDENTIFY	WA_PF_ID_TUERENTRIEGELUNG_NACH_IDENTIFIZIERUNG
1219 4	GLOBAL_SF_ID_WM_NETWORK_REGISTRATION	WA_PF_ID_NETZWERKANMELDUNG
1219 5	GLOBAL_SF_ID_WM_REMOTE	WA_PF_ID_REMOTE
1219 6	GLOBAL_SF_ID_WM_FACTORY_RESET	WA_PF_ID_WERKEINSTELLUNG
1219 7	GLOBAL_SF_ID_WM_CONTROL	WA_PF_ID_STEUERUNG
1219 8	GLOBAL_SF_ID_WM_PROGRAMMPACKAGE_SPECIAL_PROGRAMS	WA_PF_ID_PROGRAMMPAKET SONDERPROGRAMME
1219 9	GLOBAL_SF_ID_WM_LANGUAGE_ENTRY_LANGUAGE_SELECTION	WA_PF_ID_SPRACHEINSTIEG_SPRACHWAHL
1220 0	GLOBAL_SF_ID_WM_LANGUAGE_ENTRY_INTERNATIONAL	WA_PF_ID_SPRACHEINSTIEG_INTERNATIONAL
1220 1	GLOBAL_SF_ID_WM_STANDARD_LANGUAGE_ENTRY	WA_PF_ID_SPRACHEINSTIEG_STANDARDSPRACHE
1220 2	GLOBAL_SF_ID_WM_DATE_ENTRY	WA_PF_ID_DATUM_EINSTELLEN
1220 3	GLOBAL_SF_ID_WM_COLOR_SCHEME	WA_PF_ID_FARBSHEMA
1220 4	GLOBAL_SF_ID_WM_CONNECTION_MODULE	WA_PF_ID_VERNETZUNGSMODUL (not used, see 12102)

1220_5	GLOBAL_SF_ID_WM_WELCOME_SCREEN	WWA_PF_ID_STARTBILDSCHIRM
1220_6	GLOBAL_SF_ID_WM_SHOW_DRY_PARAM	WA_PF_ID_ANZEIGE_TROCKENPARAMETER
1220_7	GLOBAL_SF_ID_WM_DRY_LEVEL	WA_PF_ID_TROCKENSTUFE
1220_8	GLOBAL_SF_ID_WM_TEMPERATURE_THRESHOLD_HEATPUMP	WA_PF_ID_TEMPERATURSCHWELLE_WAERMEPUMPE
1220_9	GLOBAL_SF_ID_WM_FOLLOW_UP_TIME_FAN	WA_PF_ID_NACHLAUFZEIT_GEBLAESE
1221_0	GLOBAL_SF_ID_WM_WLAN_FREQUENCY	WA_PF_ID_WLAN_FREQUENZ
1221_1	GLOBAL_SF_ID_WD_DRYING_LEVEL_COTTONS	WA_PF_ID_TROCKENSTUFE_BAUMWOLLE
1221_2	GLOBAL_SF_ID_WD_DRYING_LEVEL_MIN_IRON	WA_PF_ID_TROCKENSTUFE_PFLEGELEICHT
1221_3	GLOBAL_SF_ID_WD_DRYING_LEVEL_AUTOMATIC	WA_PF_ID_TROCKENSTUFE_AUTOMATIC
1221_4	GLOBAL_SF_ID_WD_EXTENDED_COOL_DOWN	WA_PF_ID_ABKUEHLZEITVERLAENGERUNG
1221_5	GLOBAL_SF_ID_WM_DEVICE_CONTROL	WA_PF_ID_GERAETEBEDIENUNG
1221_6	GLOBAL_SF_ID_WM_SUPER_ECO_WASH	WA_PF_ID_SEW
1221_7	GLOBAL_SF_ID_WM_DELAY_START_RELATIVE_MAX	WA_PF_ID_STARTVORWAHL_MAX_RELATIVE
1221_8	GLOBAL_SF_ID_WM_VISIBILITY_MICROFASER	WA_PF_ID_SICHTBARKEIT_MICROFASER
1221_9	GLOBAL_SF_ID_WM_VISIBILITY_PRETREAT_SPIN_DURATION	WA_PF_ID_SICHTBARKEIT_PRAEP_SCHLEUDERDAUER
1222_0	GLOBAL_SF_ID_WM_VISIBILITY_PRETREAT_RESIDUAL_MOISTURE	WA_PF_ID_SICHTBARKEIT_PRAEP_RESTFEUCHTE
1222_1	GLOBAL_SF_ID_WM_CANCEL_PROGRAM	WA_PF_ID_PROGRAMMABBRUCH
1222_2	GLOBAL_SF_ID_WM_PROGRAMPACKAGE_ANIMAL_COVER	WA_PF_ID_PROGRAMMPAKET_TIERDECKEN
1600_1	GLOBAL_SF_ID_TD_FACTORY_DEFAULT	DRZ_PF_ID_WERKSEINSTELLUNG
1600_2	GLOBAL_SF_ID_TD_LANGUAGE	DRZ_PF_ID_SPRACHE
1600_3	GLOBAL_SF_ID_TD_CLOCK_FORMAT	DRZ_PF_ID_TAGESZEIT_FORMAT
1600_4	GLOBAL_SF_ID_TD_CLOCK_SYNCHRONISE	DRZ_PF_ID_TAGESZEIT_SYNC
1600_5	GLOBAL_SF_ID_TD_BASIC_COSTS_ELECTRICITY_BDP	DRZ_PF_ID_GRUNDKOSTEN_STROM_VOR_KOMMA
1600_6	GLOBAL_SF_ID_TD_BASIC_COSTS_ELECTRICIYT_ADP	DRZ_PF_ID_GRUNDKOSTEN_STROM_HINTER_KOMMA
1600_7	GLOBAL_SF_ID_TD_DRYING_LEVEL_COTTONS	DRZ_PF_ID_TROCKENSTUFE_KBW, WA_PF_ID_TROCKENSTUFE_BAUMWOLLE
1600_8	GLOBAL_SF_ID_TD_DRYING_LEVEL_MIN_IRON	DRZ_PF_ID_TROCKENSTUFE_PFL, WA_PF_ID_TROCKENSTUFE_PFLEGELEICHT
1600_9	GLOBAL_SF_ID_TD_DRYING_LEVEL_AUTOMATIC	DRZ_PF_ID_TROCKENSTUFE_AUT, WA_PF_ID_TROCKENSTUFE_AUTOMATIC
1601_0	GLOBAL_SF_ID_TD_EXTENDED_COOL_DOWN	DRZ_PF_ID_ABKUEHLZEITVERLAENGERUNG, WA_PF_ID_ABKUEHLZEITVERLAENGERUNG
1601_1	GLOBAL_SF_ID_TD_CLEAN_OUT_AIRWAYS	DRZ_PF_ID_LUFTWEGEANZEIGE
1601_2	GLOBAL_SF_ID_TD_BUZZER_ON	DRZ_PF_ID_SUMMER_AKTIV - Entfaellt ersetzt, da TON_ENDE auch Aus-Funktion uebernimmt
1601_3	GLOBAL_SF_ID_TD_FINISH_TONE_VOLUME	DRZ_PF_ID_TON_ENDE
1601_4	GLOBAL_SF_ID_TD_KEYPAD_TONE	DRZ_PF_ID_TON_TASTEN
1601_5	GLOBAL_SF_ID_TD_CONDUCTIVITY	DRZ_PF_ID_LEITWERT
1601_6	GLOBAL_SF_ID_TD_DRYING_LEVELS_EXTENDED	DRZ_PF_ID_RESTFEUCHTESTUFEN_ERWEITERT

1601 7	GLOBAL_SF_ID_TD_TOTAL_CONSUMPTION	DRZ_PF_ID_GESAMTVERBRAUCH_ART
1601 8	GLOBAL_SF_ID_TD_TOTAL_CONSUMPTION_RESET	DRZ_PF_ID_GESAMTVERBRAUCH_RESET
1601 9	GLOBAL_SF_ID_TD_CODE_ACTIVE	DRZ_PF_ID_PINCODE_AKTIV
1602 0	GLOBAL_SF_ID_TD_CODE	DRZ_PF_ID_PINCODE_KOMBINATION
1602 1	GLOBAL_SF_ID_TD_BRIGHTNESS_DISPLAY	DRZ_PF_ID_DISPLAY_HELLIGKEIT
1602 2	GLOBAL_SF_ID_TD_CONTRAST_DISPLAY	DRZ_PF_ID_DISPLAY_KONTRAST
1602 3	GLOBAL_SF_ID_TD_BRIGHTNESS_BUTTONS	DRZ_PF_ID_HELLIGKEIT_LICHTFELDER
1602 4	GLOBAL_SF_ID_TD_DISPLAY_SWITCH_OFF_STATUS	DRZ_PF_ID_AUSSCHALTVERHALTEN_ANZEIGE
1602 5	GLOBAL_SF_ID_TD_MACHINE_SWITCH_OFF_STATUS	DRZ_PF_ID_AUSSCHALTVERHALTEN_GERAET
1602 6	GLOBAL_SF_ID_TD_MEMORY	DRZ_PF_ID_MEMORY
1602 7	GLOBAL_SF_ID_TD_ANTICREASE	DRZ_PF_ID_KNITTERSCHUTZ
1602 8	GLOBAL_SF_ID_TD_DELAY_START	DRZ_PF_ID_STARTVORWAHL
1602 9	GLOBAL_SF_ID_TD_MIELE_AT_HOME	DRZ_PF_ID_MIELE_AT_HOME
1603 0	GLOBAL_SF_ID_TD_REMOTE_CONTROL	DRZ_PF_ID_FERNSTEUERUNG
1603 1	GLOBAL_SF_ID_TD_SMART_GRID	DRZ_PF_ID_SMARTGRID
1603 2	GLOBAL_SF_ID_TD_LOAD	DRZ_PF_ID_BELADUNG
1603 3	GLOBAL_SF_ID_TD MAINS_VOLTAGE	DRZ_PF_ID_NETZSPANNUNG
1603 4	GLOBAL_SF_ID_TD_COMPRESSOR_TYPE	DRZ_PF_ID_KOMPRESSORTYP
1603 5	GLOBAL_SF_ID_TD_DISPLAY_MAXIMUM_LOAD	DRZ_PF_ID_ANZEIGE_MAX_BELADUNG
1603 6	GLOBAL_SF_ID_TD MAINS_FREQUENCY	DRZ_PF_ID_NETZFREQUENZ
1603 7	GLOBAL_SF_ID_TD_MIELE_WELCOME_SCREEN	DRZ_PF_ID_MIELE_WILLKOMMEN
1603 8	GLOBAL_SF_ID_TD_CONSUMPTION_DATA	DRZ_PF_ID_VERBRAUCHSANZEIGE
1603 9	GLOBAL_SF_ID_TD_HEATER_RATING	DRZ_PF_ID_HEIZLEISTUNG
1604 0	GLOBAL_SF_ID_TD_DRUM_WALL_TEMPERATURE	DRZ_PF_ID_TROMMELLOCHBLECHTEMPERATUR
1604 1	GLOBAL_SF_ID_TD_MOTOR_TYPE	DRZ_PF_ID_ANTRIEBSTYP
1604 2	GLOBAL_SF_ID_TD_BRIGHTNESS_LIGHT_FIELDS_DIMMED	DRZ_PF_ID_HELLIGKEIT_LICHTFELDER_GEDIMMT
1604 3	GLOBAL_SF_ID_TD_PROGRAMME_INFO	DRZ_PF_ID_PROGRAMM_INFO
1604 4	GLOBAL_SF_ID_TD_REMOTE_UPDATE	DRZ_PF_ID_REMOTE_UPDATE
1604 5	GLOBAL_SF_ID_TD_COOLING_DOWN_TEMPERATURE	DRZ_PF_ID_ABKUEHLMODE
1604 6	GLOBAL_SF_ID_TD_FAULT_ALARM	DRZ_PF_ID_TON_FEHLER
1604 7	GLOBAL_SF_ID_TD_WELCOME_TONE_VOLUME	DRZ_PF_ID_TON_BEGRUESSUNG
1604 8	GLOBAL_SF_ID_TD_APPLIANCE_CONFIGURATION	DRZ_PF_ID_GERAETEAUSSTATTUNG
1604 9	GLOBAL_SF_ID_TD_DISPLAY_SERVICE_MODE	DRZ_PF_ID_ANZEIGE_KD_SERVICE
1605 0	GLOBAL_SF_ID_TD_DATE_FORMAT	DRZ_PF_ID_DATUMSFORMAT

1605 1	GLOBAL_SF_ID_TD_NETWORK_LOGIN	DRZ_PF_ID_NETZWERKANMELDUNG
1605 2	GLOBAL_SF_ID_TD_WIFI_RF_VARIANT	DRZ_PF_ID_WLAN_RF_VARIANTE
1608 0	GLOBAL_SF_ID_TD_EXTERNAL_EXHAUST_FLAP	DRZ_PF_ID_EXTERNE_ABLUFTKLAPPE
1608 1	GLOBAL_SF_ID_TD_EXTERNAL_FAN	DRZ_PF_ID_ZUSATZGEBLAISE
1608 2	GLOBAL_SF_ID_TD_PRESSURE_SENSOR	DRZ_PF_ID_DRUCKSENSOR
1608 3	GLOBAL_SF_ID_TD_EXTERNAL_EXHAUST_FLAP_DELAY	DRZ_PF_ID_EXTERNE_ABLUFTKLAPPE_VERZOEGERUNG
1608 5	GLOBAL_SF_ID_TD_DRYING_LEVEL_MACHINE_IRON_DRY	DRZ_PF_ID_TROCKENSTUFE_KBW_MANGELFEUCHT
1608 6	GLOBAL_SF_ID_TD_DURATION_COOL_AIR	DRZ_PF_ID_DAUER_ZEITPROGRAMM_KALT
1608 7	GLOBAL_SF_ID_TD_DURATION_WARM_AIR	DRZ_PF_ID_DAUER_ZEITPROGRAMM_WARM
1608 8	GLOBAL_SF_ID_TD_CLEAN_FILTERS_ACTIVE	DRZ_PF_ID_SIEBE_REINIGEN
1608 9	GLOBAL_SF_ID_TD_STANDARD	DRZ_PF_ID_NORM
1609 0	GLOBAL_SF_ID_TD_SAFETY_COOLING	DRZ_PF_ID_SICHERHEITSABKUEHLEN
1609 1	GLOBAL_SF_ID_TD_DISPLAY_RESIDUAL_MOISTURE	DRZ_PF_ID_SICHTBARKEIT_RESTFEUCHTE
1609 2	GLOBAL_SF_ID_TD_DISPLAY_DURATION	DRZ_PF_ID_SICHTBARKEIT_DAUER
1609 3	GLOBAL_SF_ID_TD_DISPLAY_GENTLE	DRZ_PF_ID_SICHTBARKEIT_SCHONEN
1609 4	GLOBAL_SF_ID_TD_DISPLAY_RES_MOIST_PERCENTAGE	DRZ_PF_ID_ANZEIGE_RESTFEUCHTE_PROZENT
1609 5	GLOBAL_SF_ID_TD_DISPLAY_TEMPERATURE	DRZ_PF_ID_SICHTBARKEIT_TEMPERATUR
1609 7	GLOBAL_SF_ID_TD_LOGO	DRZ_PF_ID_LOGO
1609 8	GLOBAL_SF_ID_TD_CLEAN_FILTERS_INTERVAL	DRZ_PF_ID_SIEBE_REINIGEN_INTERVALL
1609 9	GLOBAL_SF_ID_TD_LANGUAGE_MENU	DRZ_PF_ID_SPRACHEINSTIEG
1610 0	GLOBAL_SF_ID_TD_COLOUR_SCHEME	DRZ_PF_ID_FARBSCHEMA
1610 1	GLOBAL_SF_ID_TD_DISPLAY_ANTI_CREESE	DRZ_PF_ID_SICHTBARKEIT_KNITTERSCHUTZ
1610 2	GLOBAL_SF_ID_TD_WS_CONTROLS	DRZ_PF_ID_STEUERUNG
1610 3	GLOBAL_SF_ID_TD_ARRANGE_PROGRAMS	DRZ_PF_ID_PROGRAMME_ANORDNEN
1610 4	GLOBAL_SF_ID_TD_LANGUAGE_FAVOURITE_1	DRZ_PF_ID_SPRACHE_FAVORIT_1
1610 5	GLOBAL_SF_ID_TD_LANGUAGE_FAVOURITE_2	DRZ_PF_ID_SPRACHE_FAVORIT_2
1610 6	GLOBAL_SF_ID_TD_LANGUAGE_FAVOURITE_3	DRZ_PF_ID_SPRACHE_FAVORIT_3
1610 7	GLOBAL_SF_ID_TD_LANGUAGE_FAVOURITE_4	DRZ_PF_ID_SPRACHE_FAVORIT_4
1610 8	GLOBAL_SF_ID_TD_LANGUAGE_FAVOURITE_5	DRZ_PF_ID_SPRACHE_FAVORIT_5
1610 9	GLOBAL_SF_ID_TD_LANGUAGE_FAVOURITE_6	DRZ_PF_ID_SPRACHE_FAVORIT_6
1611 0	GLOBAL_SF_ID_TD_PROG_PACKAGE_LABEL	DRZ_PF_ID_PROGPAKET_LABELPROGRAMME
1611 1	GLOBAL_SF_ID_TD_PROG_PACKAGE_STANDARD	DRZ_PF_ID_PROGPAKET_STANDARDPROGRAMME
1611 2	GLOBAL_SF_ID_TD_PROG_PACKAGE_SPORTSWEAR	DRZ_PF_ID_PROGPAKET_SPORTWAESCHE
1611 3	GLOBAL_SF_ID_TD_PROG_PACKAGE_HOME_TEXTILES	DRZ_PF_ID_PROGPAKET_HEIMTEXTILIEN

1611 4	GLOBAL_SF_ID_TD_PROG_PACKAGE_HYGIENE	DRZ_PF_ID_PROGPAKET_HYGIENE
1611 5	GLOBAL_SF_ID_TD_PROG_PACKAGE_WETCARE	DRZ_PF_ID_PROGPAKET_WETCARE
1611 6	GLOBAL_SF_ID_TD_PROG_PACKAGE_OPERATOR	DRZ_PF_ID_PROGPAKET_BETREIBERPROGRAMME
1611 7	GLOBAL_SF_ID_TD_PROG_PACKAGE_FLAT_LAUNDRY	DRZ_PF_ID_PROGPAKET_FLACHWAESCHE
1611 8	GLOBAL_SF_ID_TD_PROG_PACKAGE_DOWNLOADS	DRZ_PF_ID_PROGPAKET_PROGRAMMDOWNLOADS
1611 9	GLOBAL_SF_ID_TD_REMOTE	DRZ_PF_ID_REMOTE
1612 0	GLOBAL_SF_ID_TD_COLOUR_ALLOCATION	DRZ_PF_ID_FARBUORDNUNG
1612 1	GLOBAL_SF_ID_TD_LANGUAGE_ENTRY_LANGUAGE	DRZ_PF_ID_SPRACHE_SPRACHEINSTIEG
1612 2	GLOBAL_SF_ID_TD_DISPLAY_GENTLE_SIMPLE	DRZ_PF_ID_SICHTBARKEIT_SCHONEN_EINFACH
1612 3	GLOBAL_SF_ID_TD_WASH2DRY	DRZ_PF_ID_WASH2DRY
1612 4	GLOBAL_SF_ID_TD_PROG_PACKAGE_BEDDING	DRZ_PF_ID_PROGPAKET_BETTEN
1612 5	GLOBAL_SF_ID_TD_PROG_PACKAGE_BUILDINGS_MAINTENANCE	DRZ_PF_ID_PROGPAKET_GEBAEUDEREINIGER
1612 6	GLOBAL_SF_ID_TD_PROG_PACKAGE_FIRE_SERVICE	DRZ_PF_ID_PROGPAKET_FEUERWEHR
1612 7	GLOBAL_SF_ID_TD_PROG_PACKAGE_EQUESTRIAN	DRZ_PF_ID_PROGPAKET_REITSTALL
1612 8	GLOBAL_SF_ID_TD_PROG_PACKAGE_PROF_CAPP	DRZ_PF_ID_PROGPAKET_PROF_CAPP_PROGRAMME
1612 9	GLOBAL_SF_ID_TD_FAN_CLOCKING	DRZ_PF_ID_GEBLAESETAKTUNG
1613 0	GLOBAL_SF_ID_TD_FAN_CLOCKING_TIME_AFTER_START	DRZ_PF_ID_GEBLAESETAKTUNG_ZEIT_NACH_START
1613 1	GLOBAL_SF_ID_TD_FAN_CLOCKING_STOP_TIME	DRZ_PF_ID_GEBLAESETAKTUNG_GEBLAESEAUSZEIT
1613 2	GLOBAL_SF_ID_TD_FAN_CLOCKING_REVERSE_CYCLES	DRZ_PF_ID_GEBLAESETAKTUNG_REVERSIERZYKLEN
1613 3	GLOBAL_SF_ID_TD_AIR_CIRCULATION_FLAP_CONTROL	DRZ_PF_ID_MISCHLUFTKLAPPENSTEUERUNG
1613 4	GLOBAL_SF_ID_TD_COOLING_DOWN_TEMPERATURE_FAHRENHEIT	DRZ_PF_ID_ABKUEHLTEMPERATUR_FAHRENHEIT
1613 5	GLOBAL_SF_ID_TD_PROG_PACKAGE_STANDARD_2	DRZ_PF_ID_PROGPAKET_STANDARDPROGRAMME_2
1613 6	GLOBAL_SF_ID_TD_PROG_PACKAGE_PROF_CAPP_2	DRZ_PF_ID_PROGPAKET_PROF_CAPP_PROGRAMME_2
1625 2	GLOBAL_SF_ID_TD_DATALOGGER	DRZ_PF_ID_DATALOGGER
1625 3	GLOBAL_SF_ID_TD_CONTROL_TYPE	DRZ_PF_ID_BEDIENTEILTYP
1625 4	GLOBAL_SF_ID_TD_DRYER_TYPE	DRZ_PF_ID_TROCKNERTYP
1817 7	GLOBAL_SF_ID_PW_WATER_RECOVERY_INSTALLED	Water recycling system installed"
1817 8	GLOBAL_SF_ID_PW_WATER_RECOVERY_EXTRA_TIME_DRAIN	Water recycling system extra time for drain"
1817 9	GLOBAL_SF_ID_PW_WATER_RECOVERY_EXTRA_TIME_PUMP	Water recycling system extra time for pump"
1818 2	GLOBAL_SF_ID_PW_FLOWMETER_PULSES_LAG_ACTIVE	Feature switch for EZL401 lag time detection
1818 3	GLOBAL_SF_ID_PW_FLOWMETER_PULSES_LAG_TIME	Lag time for EZI401 before error no pulses is reported
3276 7	GLOBAL_SF_ID_GLOBAL_RESERVED_INVALID	SF unknown or invalid

## 24.4

### DosingConfiguration

#### 24.4.1

The resource can be read and written.

A GET on .../**Settings/DosingConfiguration/** would result in

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
  "1": {
    "href": "1/"
  },
  "2": {
    "href": "2/"
  },
  "3": {
    "href": "3/"
  },
  "4": {
    "href": "4/"
  },
  "5": {
    "href": "5/"
  },
  "6": {
    "href": "6/"
  },
  "7": {
    "href": "7/"
  },
  "8": {
    "href": "8/"
  }
}
```

All dosing relays are listed.

A GET on .../**Settings/DosingConfiguration/<ID>/** would result in

```
HTTP/1.1 200 OK
```

Content-Type: application/vnd.miele.v1+json; charset=utf-8  
Content-Length: <decimal number of octets>

```

        "Min":2,
        "Max":999,
        "CurrentValue":2,
        "StepSize":1,
        "IntType":139
    },
    "FlowmeterActivationState":false,
    "FlowmeterCapacity":{
        "RequestMask":8,
        "Min":1,
        "Max":9999,
        "CurrentValue":1,
        "StepSize":1,
        "IntType":7
    },
    "AdjustmentFactor":{
        "RequestMask":8,
        "Min":1,
        "Max":200,
        "CurrentValue":100,
        "StepSize":1,
        "IntType":7
    },
    "AdjustmentStepSize":0,
    "EmptyLevelWarning":0,
    "EmptyLevelSensing":0
}

```

#### Dosing Configuration Properties

<Fieldname>	Datatype	Read (R) / Write (W)	Description
InfoText	u8 array  utf8	R/W	free info text for relay description
DetergentType	u8	R/W	0: no detergent type 1: laundry detergent 2: softener 4: bleach
ContainerSize	struct  GenericParameterValueU16	R/W	dosage container size in ml
DosageMeterType	u8	R/W	metering type - via seconds and calibration or metering via flowmeter

			0: meter type seconds (amount of detergent is estimated over ml per second)  1: meter type flowmeter (amount of detergent is estimated over impulses per liter with installed flowmeter)
PumpActivationState	bool	R/W	state on or off
PumpCapacity	struct  GenericParameterValueU16	R/W	capacity of the pump in ml/min
FlowmeterActivationState	bool	R/W	state on or off
FlowmeterCapacity	struct  GenericParameterValueU16	R/W	capacity of the flowmeter in ticks/ltr
AdjustmentFactor	struct  GenericParameterValueU16	R/W	adjustment factor from 0.1 to 2.0, step size 0.1; example: value 1 equals adjustment factor 0.1
AdjustmentStepSize	u8	R/W	dosing amount per adjustment step (----.+++) in ml
EmptyLevelWarning	u8	R/W	0: no empty level warning 1: empty level warning at 25 % 2: empty level warning at 50 % 3: empty level warning at 75 %
EmptyLevelSensing	u8	R/W	0: no empty level sensing 1: empty level sensing high 2: empty level sensing low

struct GenericParameterValueU16

<Fieldname>	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	Bitmask LSB 0x00: not supported 0x01: adjustable 0x08: visible
Min	u16	R	minimum value
Max	u16	R	maximum value

CurrentValue	u16	R/W	current value
StepSize	u8	R	stepsize
IntType	u16	R	interpretation type

## 24.4.2

## **Writing a dosing configuration**

Example Request (dosing relay 1):

```
PUT /.../Settings/DosingConfiguration/1/ HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

## Body:

```
0,
0
],
"DetergentType":1,
"ContainerSize":{
  "RequestMask":8,
  "Min":1,
  "Max":99,
  "CurrentValue":1,
  "StepSize":1,
  "IntType":137
},
"DosageMeterType":0,
"PumpActivationState":false,
"PumpCapacity":{
  "RequestMask":8,
  "Min":2,
  "Max":999,
  "CurrentValue":2,
  "StepSize":1,
  "IntType":139
},
"FlowmeterActivationState":false,
"FlowmeterCapacity":{
  "RequestMask":8,
  "Min":1,
  "Max":9999,
  "CurrentValue":1,
  "StepSize":1,
  "IntType":7
},
"AdjustmentFactor":{
  "RequestMask":8,
  "Min":1,
  "Max":200,
  "CurrentValue":100,
  "StepSize":1,
  "IntType":7
},
"AdjustmentStepSize":0,
"EmptyLevelWarning":0,
"EmptyLevelSensing":0
}
```

**Important:** All parameters must be written! It is recommended to read the object and then modify the parameters.  
(read modify write)

## 24.5

### Special Program

#### 24.5.1

This service makes it possible to Read and Write special programs. These are programs which are configured and named by the customer. Later on it can be found on the UI. There are different customize options. Moreover to see a special program it has to be activated. At the moment this can only be done on the device and not with a REST route.

The list of all special programs will be listed.

```
GET /.../Settings/SpecialPrograms/List HTTP/1.1
Host: HostNameDev
Accept: ....
```

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "10": {
        "href": "10/"
    },
    "20": {
        "href": "20/"
    }
}
```

Detailed informations for each available special programs will be shown.

```
GET /.../Settings/SpecialPrograms/List/10 HTTP/1.1
Host: HostNameDev
Accept: ....
```

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
```

```
"ProgId": 10,  
"SelectionType": "2",  
"Name": "Hard Wash"  
SOME MORE PARAMETERS  
}
```

The semi professional dryer with an analog display has his own service call because it delivers informations different.

```
GET /.../Settings/SpecialPrograms/ManipulatedPrograms HTTP/1.1  
Host: HostNameDev  
Accept: ....
```

It delivers the special program ID with the detailed informations.

```
HTTP/1.1 200 OK  
Content-Type: ...  
Content-Length: <decimal number of octets>  
  
{  
    "2001":{  
        "ProgId":2,  
        "Extra":1,  
        "ParameterChanged: False  
    },  
  
    "2002":{  
        "ProgId":2,  
        "Extra":1,  
        "ParameterChanged: False  
    }  
    ... up to 12 program slots  
}
```

This is the service to write special programs. As it is mentioned above these programs need to be activated before it is visible on the display.

```
PUT /.../Settings/SpecialPrograms/Select HTTP/1.1  
Host: HostNameDev  
Accept: ....
```

```
HTTP/1.1 200 OK  
Content-Type: ...  
Content-Length: <decimal number of octets>  
  
{  
    "ProgId": 10,
```

```
"SelectionType": "2",
"Name": "Hard Wash"
"ParaTD": {
"RunningTime": 100,
"DrumMainDirectionProgram": 0,
"DrumReversalProgram": 0,
"ExtraDryingTime": 0,
... some more parameters
},
....  
}
```

## 24.6

### Program

#### 24.6.1

This service is used to configure the programs and blocks of certain laundry care *Devices*. At the moment only certain tumble dryers are supported.

This service is only available, if the *Device* supports the configuration of the program.

If this service or any subservice is called with an invalid/unknown ID, the *Device* returns

```
HTTP/1.1 404 Not Found
```

In addition to that, if a DOP2 error occurs while the communication module communicates with the *Device* control an error code 500 is given with additional information.

#### 24.6.2

##### GET /Settings/Program

#### 24.6.2.1

The available programs that can be configured can be read via the resource `.../Settings/Program/`

```
GET .../Settings/Program HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the list of links to program IDs that can be modified

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "2001": {"href": "2001/"},
    "2002": {"href": "2002/"}
}
```

#### 24.6.3

##### GET /Settings/Program/<ID>/

###### 24.6.3.1

The detail information for a program can be read via the resource /.../Settings/Program/<ID>, whereas ID is the ID of the program.

```
GET /.../Settings/Program/2001/ HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the details about this program

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "Name": "customer given Name",
    "Blocks":
    {
        "1": { "href": "1/"},
        "2": { "href": "2/"},
        "3": { "href": "3/"},
        "4": { "href": "4/"},
        "5": { "href": "5/"},
        "6": { "href": "6/"},
        "7": { "href": "7/"},
        "8": { "href": "8/"},
        "9": { "href": "9/"},
    },
    "Context":
```

```
{
  "DrumProgramPreferredDirection": {
    "RequestMask": 2,
    "Min": 0,
    "Max": 1024,
    "CurrentValue": 512,
    "StepSize": 1
  },
  "DrumProgramOppositeDirection": {
    "RequestMask": 0,
    "Min": 0,
    "Max": 0,
    "CurrentValue": 0,
    "StepSize": 0
  },
  "DrumProgramPause" {
    ...
    ...structure identical to above examples...
  },
  "DrumAntiCreasePreferredDirection": {
    ...
    ...structure identical to above examples...
  },
  "DrumAntiCreaseOppositeDirection": {
    ...
    ...structure identical to above examples...
  },
  "DrumAntiCreasePause": {
    ...
    ...structure identical to above examples...
  }
}
```

<Fieldname>	Datatype	Read (R) / Write (W)	Description
Name	string	R/W	Customer given name, maximum length 2x20 characters coded UTF-8
Blocks	object	R	Blocks supported for this program with links to details of this block
Context	object	R	Used to group the parameters
DrumProgramPreferredDirection	object	R/W	Values are explained in the following table

DrumProgramOppositeDirection	object	R/W	Values are explained in the following table
DrumProgramPause	object	R/W	Values are explained in the following table
DrumAntiCreasePreferredDirection	object	R/W	Values are explained in the following table
DrumAntiCreaseOppositeDirection	object	R/W	Values are explained in the following table
DrumAntiCreasePause	object	R/W	Values are explained in the following table

<Fieldname>	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	0: GLOBAL_PARA_NOT_SUPPORTED 1: GLOBAL_PARA_ADJUSTABLE 2: GLOBAL_PARA_REQUIRED 8: GLOBAL_PARA_VISIBLE 32: GLOBAL_PARA_ERASABLE
Min	u16	R	U16 minimum value for CurrentValue
Max	u16	R	U16 maximum value for CurrentValue
CurrentValue	u16	R	Current value of this parameter
StepSize	u16	R	Information regarding the stepsize

#### 24.6.4

PUT /Settings/Program/<ID>/

##### 24.6.4.1

The parameters of a program can be set via the resource /.../Settings/Program/<ID>/, whereas ID is the ID of the program.

```
PUT /.../Settings/Program/2001/Name HTTP/1.1
Host: HostNameDev
Accept: ....
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "Name": "New name",
    "DrumProgramPreferredDirection": 512,
    "DrumProgramOppositeDirection": 0,
```

```
"DrumProgramPause": 10,  
"DrumAntiCreasePreferredDirection": 20,  
"DrumAntiCreaseOppositeDirection": 15,  
"DrumAntiCreasePause": 123  
}
```

If the parameters have been successfully written the *Device* returns

```
HTTP/1.1 200 OK  
Content-Type: ...  
Content-Length: <decimal number of octets>  
  
[  
    "Success": {"Name": "New name"},  
    "Success": {"DrumProgramPreferredDirection": 512},  
    "Success": {"DrumProgramOppositeDirection": 0},  
    "Success": {"DrumProgramPause": 10},  
    "Success": {"DrumAntiCreasePreferredDirection": 20},  
    "Success": {"DrumAntiCreaseOppositeDirection": 15},  
    "Success": {"DrumAntiCreasePause": 123}  
]
```

*Note: A client APP should call the Context resource afterwards in order to check, if any parameter ranges have changed (which might occur).*

#### 24.6.5

**DELETE /Settings/Program/<ID>/**

##### 24.6.5.1

A program can be deleted via the resource /.../Settings/Program/<ID>, whereas ID is the ID of the program.

```
DELETE /.../Settings/Program/2001/ HTTP/1.1  
Host: HostNameDev  
Accept: ....
```

If access is possible (according to the user level), the *Device* returns

```
HTTP/1.1 204 No Content
```

#### 24.6.6

**Parameter Block Configuration**

#### 24.6.6.1

GET /Settings/Program/<ID>/<BlockID>/

##### 24.6.6.1.1

The detail information for a program can be read via the resource .../Settings/Program/<ID>/<BlockID>, whereas ID is the ID of the program and BlockID is the ID of the block.

The available blocks are returned for every program via .../Settings/Program/<ID>/.

```
GET .../Settings/Program/2001/1/ HTTP/1.1
Host: HostNameDev
Accept: ....
```

If access is possible (according to the user level), the *Device* returns the details about this program block

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "BlockType": 1,
    "Context":
    {
        "ResidualMoisture":
        {
            "RequestMask": 2,
            "Min": 0,
            "Max": 1024,
            "CurrentValue": 512,
            "StepSize": 1
        },
        "RunningTime":
        {
            "RequestMask": 0,
            "Min": 0,
            "Max": 0,
            "CurrentValue": 0,
            "StepSize": 0
        },
        "ProcessAirTemperature"
        {
            ...structure identical to above examples...
        },
        "HeatingTemperature":
        {
            ...structure identical to above examples...
        },
        "HeatingLevel":
        {

```

```
    ...structure identical to above examples...
}
}
```

<Fieldname>	Datatype	Read (R) / Write (W)	Description
BlockType	u8	R/W	Possible values: 0: GLOBAL_PPC_BLOCK_TYPE_NONE 1: GLOBAL_PPC_BLOCK_TYPE_RM RM is Residual Moisture 2: GLOBAL_PPC_BLOCK_TYPE_TIME Time block 3: GLOBAL_PPC_BLOCK_TYPE_COOLING Cooling block
ResidualMoisture	s8	R/W	Supported in <ul style="list-style-type: none"> <li>• GLOBAL_PPC_BLOCK_TYPE_RM</li> </ul>
RunningTime	u16	R/W	Supported in <ul style="list-style-type: none"> <li>• GLOBAL_PPC_BLOCK_TYPE_TIME</li> </ul>
ProcessAirTemperature	u8	R/W	Supported in <ul style="list-style-type: none"> <li>• GLOBAL_PPC_BLOCK_TYPE_RM (if HeatingLevel &gt; 0)</li> <li>• GLOBAL_PPC_BLOCK_TYPE_TIME (if HeatingLevel &gt; 0)</li> <li>• GLOBAL_PPC_BLOCK_TYPE_COOLING (cooling temperature)</li> </ul>
HeatingTemperature	u8	R/W	Supported in <ul style="list-style-type: none"> <li>• GLOBAL_PPC_BLOCK_TYPE_RM (if HeatingLevel &gt; 0)</li> <li>• GLOBAL_PPC_BLOCK_TYPE_TIME (if HeatingLevel &gt; 0)</li> </ul>
HeatingLevel	u8	R/W	Supported in <ul style="list-style-type: none"> <li>• GLOBAL_PPC_BLOCK_TYPE_RM</li> <li>• GLOBAL_PPC_BLOCK_TYPE_TIME</li> </ul>

<Fieldname>	Datatype	Read (R) / Write (W)	Description
RequestMask	u8	R	0: GLOBAL_PARA_NOT_SUPPORTED 1: GLOBAL_PARA_ADJUSTABLE 2: GLOBAL_PARA_REQUIRED 8: GLOBAL_PARA_VISIBLE 32: GLOBAL_PARA_ERASABLE
Min	see description in previous chapter	R	Minimum value for CurrentValue
Max	see description in	R	Maximum value for CurrentValue

	previous chapter		
CurrentValue	see description in previous chapter	R	Current value of this parameter
StepSize	see description in previous chapter	R	Information regarding the stepsize

## 24.6.6.2

**PUT /Settings/Program/<ID>/<BlockID>/**

### 24.6.6.2.1

The parameters of a program can be set via the resource `/.../profSettings/Program/<ID>/`, whereas ID is the ID of the program.

```
PUT /.../profSettings/Program/2001/1 HTTP/1.1
Host: HostNameDev
Accept: ....
Content-Type: ...
Content-Length: <decimal number of octets>

{
    "BlockType": 1,
    "ResidualMoisture": 100,
    "RunningTime": 50,
    "ProcessAirTemperature": 100,
    "HeatingTemperature": 20,
    "HeatingLevel": 15
}
```

If the parameters have been successfully written the *Device* returns

```
HTTP/1.1 200 OK
Content-Type: ...
Content-Length: <decimal number of octets>

[
    "Success": {"BlockType": 1},
    "Success": {"ResidualMoisture": 100},
    "Success": {"RunningTime": 50},
    "Success": {"ProcessAirTemperature": 100},
    "Success": {"HeatingTemperature": 20},
    "Success": {"HeatingLevel": 15}
]
```

*Note: A client APP should call the Context resource afterwards in order to check, if any parameter ranges have changed (which might occur).*

## 25

### Service: DOP2

#### 25.1

The service DOP2 is located on the REST-API under .../<id:Device>/DOP2/ and it is only available, if a Device supports the internal DOP2 protocol.

This service is only accessible via the *Miele Cloud Service* and via the *Customer Service IP-Diagnosis* (see Core Spec chapter 8).

The service is technical identical to the DOP2 service (PTC ID 700472) from the domestic IP Profile. Details regarding this service can be found in the corresponding services spec (PTC ID 486261).

## 26

### Service: profTimeBasedReservation

#### 26.1

The profTimeBasedReservation service allows to book machines for a certain date. Right before the reservation is due only programs that will end before the reservation can be started.

As a precondition to activate TimeBasedReseervation it is necessary to set

- *GLOBAL\_SF\_ID\_GLOBAL\_EXTERNAL\_PROGRAM\_LOCK(10048) = 1*
- *GLOBAL\_SF\_ID\_GLOBAL\_PAYMENT\_SYSTEM (10022) = 4*

This has to be done in the customer programming mode. After that the value "timeUntilReservation" is Read-Only.

#### 26.2

##### GET profTimeBasedReservation

###### 26.2.1

Required permission: 107

```
GET /<id:Device>/profTimeBasedReservation HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "timeUntilReservation": 120
Active ??? Flag ergänzen PF auslesen? Unterschied Kleine Riesen Modulo
}
```

timeUntilReservation has the following values

0 == all programs locked  
1 - 65535 (minutes for the reservation)  
65535 (all programs unlocked)

### 26.3

#### PUT profTimeBasedReservation

##### 26.3.1

Required permission: 108

```
PUT /<id:Device>/profTimeBasedReservation HTTP/1.1
Host: HostNameDev
Accept: application/vnd.miele.v1+json
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>

{
    "timeUntilReservation": 120
}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.miele.v1+json; charset=utf-8
Content-Length: <decimal number of octets>
```

```
[  
 {"Success": {"timeUntilReservation": 120}}  
]
```

## 26.4

### DELETE profTimeBasedReservation

#### 26.4.1

Required permission: 114

```
DELETE /<id:Device>/profTimeBasedReservation HTTP/1.1  
Host: HostNameDev  
Accept: application/vnd.miele.v1+json
```

Response:

```
HTTP 204 No Content
```

If the reservation is deleted, the GET returns 65535.

## 27 Miele Professional IP Profile - Services

## **Abbildungen:**

Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.