batterX

CurrentState / CollectedData					
For Grid, Load, Battery => Entity = UPS Number For Solar => Entity = Controller Number CollectedData includes Identifier Column (2=Min | 1=Avg | 4=Max) In CollectedData insert row with type=1 before logging the data and type=2 afterwards					
Group	**Name**	**HEX**	**DEC**	**Entity**	**Unit**
Grid	Voltage L1	111	273	1	0.01 V
Grid	Voltage L2	112	274	1	0.01 V
Grid	Voltage L3	113	275	1	0.01 V
Grid	Current L1	131	305	1	0.01 A
Grid	Current L2	132	306	1	0.01 A
Grid	Current L3	133	307	1	0.01 A
Grid	Power L1	151	337	1	1 W
Grid	Power L2	152	338	1	1 W
Grid	Power L3	153	339	1	1 W
Grid	Power Total	161	353	1	1 W
Grid	Frequency	162	354	1	0.01 Hz
Device	Component Max Temperature	171	369	1	1 °C
Load	Voltage L1	511	1297	1	0.01 V
Load	Voltage L2	512	1298	1	0.01 V
Load	Voltage L3	513	1299	1	0.01 V
Load	Current L1	531	1329	1	0.01 A
Load	Current L2	532	1330	1	0.01 A
Load	Current L3	533	1331	1	0.01 A
Load	Power L1	551	1361	1	1 W
Load	Power L2	552	1362	1	1 W
Load	Power L3	553	1363	1	1 W
Load	Power Total	561	1377	1	1 W
Load	Frequency	562	1378	1	0.01 Hz
Bus	Voltage Minus-N	311	785	1	0.01 V
Bus	Voltage Plus-N	312	786	1	0.01 V
Bus	Current Minus	321	801	1	0.01 A
Bus	Current Plus	322	802	1	0.01 A
Battery	Voltage Minus-N	411	1041	1	0.01 V
Battery	Voltage Plus-N	412	1042	1	0.01 V
Battery	Current Minus	421	1057	1	0.01 A
Battery	Current Plus	422	1058	1	0.01 A
Battery	Capacity Minus %	431	1073	1	1 %
Battery	Capacity Plus %	432	1074	1	1 %
Battery	Power Total	461	1121	1	1 W
Solar	Voltage X-1	611	1553	X	0.01 V
Solar	Voltage X-2	612	1554	X	0.01 V
Solar	Voltage X-3	613	1555	X	0.01 V
Solar	Voltage X-4	614	1556	X	0.01 V
Solar	Current X-1	621	1569	X	0.01 A
Solar	Current X-2	622	1570	X	0.01 A
Solar	Current X-3	623	1571	X	0.01 A
Solar	Current X-4	624	1572	X	0.01 A
Solar	Power X-1	651	1617	X	1 W
Solar	Power X-2	652	1618	X	1 W
Solar	Power X-3	653	1619	X	1 W
Solar	Power X-4	654	1620	X	1 W
Solar	Power X Total	661	1633	X	1 W
Solar	Power Total	662	1634	0	1 W
Fault	Fault Status	4001	16385	1	0 / 1
Fault	Latest Fault ID	4002	16386	1	

Status	PFC Status	6001	24577	1	0 / 1
Status	Boost Status	6002	24578	1	0 / 1
Status	Eco Mode Status	6003	24579	1	0 / 1
Status	CloudStream Connection Timestamp	6FFF	28671	0	
I/O	Output 1 State	921	2337	1	0 / 1
I/O	Output 2 State	921	2337	2	0 / 1
I/O	Output 3 State	921	2337	3	0 / 1
I/O	Output 4 State	921	2337	4	0 / 1
I/O	Input 1 State	911	2321	1	0 / 1
I/O	Input 2 State	911	2321	2	0 / 1
I/O	Input 3 State	911	2321	3	0 / 1
I/O	Input 4 State	911	2321	4	0 / 1
I/O	Switch 1 State	915	2325	1	0 / 1
I/O	Switch 2 State	915	2325	2	0 / 1
I/O	Switch 3 State	915	2325	3	0 / 1
I/O	Switch 4 State	915	2325	4	0 / 1

PowerData / EnergyData

In EnergyData is logged only the Daily Energy
In PowerData are logged arrays (as string separated with space)
with 96 items, each item represents 15 minutes

Name	Type	Entity	Unit	
Solar Produced	YYYYMMDD	60	1	W / Wh
Load Consumed	YYYYMMDD	50	1	W / Wh
Solar -> Load	YYYYMMDD	61	1	W / Wh
Grid (In) (Injection)	YYYYMMDD	11	1	W / Wh
Battery (In) (Charging)	YYYYMMDD	41	1	W / Wh
Grid (Out) (Consumption)	YYYYMMDD	10	1	W / Wh
Battery (Out) (Discharging)	YYYYMMDD	40	1	W / Wh

WarningsData

Logged as array with Type = 0x4003 and Entity = UPS Number

Group	Name	ID
AC Input	Loss	16640
AC Input	Island	16641
AC Input	Phase Dislocation	16642
AC Input	Wave Loss	16643
AC Input	Ground Loss	16644
AC Input	Voltage Loss	16657
AC Input	Voltage High Loss	16658
AC Input	Voltage Low Loss	16659
AC Input	Average Voltage Over	16660
AC Input	Frequency Loss	16738
AC Input	Frequency High Loss	16739
AC Input	Frequency Low Loss	16740
AC Output	Short	17665
AC Output	Voltage High Loss	17682
AC Output	Voltage Low Loss	17683
AC Output	Over Load	17761
Battery	Open	17408
Battery	Voltage Too High	17425
Battery	Low	17426

Battery	Weak	17441
Battery	Discharge Low	17442
Battery	Low in Hybrid Mode	17443
Battery	Over Charge	17444
Battery	Over Current	17457
Solar	Loss	17920
Solar	Input 1 Loss	17921
Solar	Input 2 Loss	17922
Solar	Input Short	17929
Solar	Voltage Too High	17937
Solar	Voltage Too Low	17938
Solar	Input 1 Voltage Too High	17953
Solar	Input 2 Voltage Too High	17954
Solar	Over Current	17969
Solar	Input Power Abnormal	18017
Solar	Insulation Fault	18065
Bus	Soft Start Timeout	17152
Bus	Over Voltage	17169
Bus	Under Voltage	17170
Inverter	Soft Start Timeout	18176
Inverter	Relay Fault	18177
Inverter	Current Too High	18225
Inverter	Over Current For Long Time	18226
Other	Over Temperature	18689
Other	Control Board Wiring Error	18690
Other	External Flash Fail	18691
Other	Initial Fail	18692
Other	Fan Stop	18693
Other	EPO Active	18694
Other	DC Current Sensor Fail	18696
Other	Power Down	18697
Other	Leakage current too high	18704
Other	Leakage current sensor fault	18705
Other	Line value consistent fail between MCU & DSP	18706
Other	Connect fail between MCU & DSP	18707
Other	Current Sensor Fault	18708
Other	Discharge Fault	18709
Other	Discharge Fail	18710
Other	Discharge Soft Time Out	18711
Other	SPS Power Voltage Abnormal	18712
Other	AC Circuit Voltage Sample Error	18713
Live&Smart	Energy Meter Not Working	18928

Settings

```
VarName => Setting Variable Identifier
Name    => Label of the Setting, set by the end-user, appears in the GPIO menu

V4      => Minimal-Active-Time   => Used with Outputs and UPS Commands
V5      => Switch-off delay      => Used with Outputs and UPS Commands
V6      => Switch-on delay       => Used with Outputs and UPS Commands
```

```
S1      => Statement              => Used with Outputs and UPS Commands


Mode    => For Outputs
           => IF '0' the output will always be LOW
           => IF '1' the statement will be evaluated and output set
        => For UPS Commands
           => IF '0' the command will be ignored
           => IF '1' the statement will be evaluated and
              => IF returned 'TRUE' the UPS Setting will be set to ENABLED
              => IF returned 'FALSE' the UPS Setting will be set to DISABLED
           => IF '2' the statement will be evaluated and
              => IF returned 'TRUE' the UPS Setting will be set to DISABLED
              => IF returned 'FALSE' the UPS Setting will be set to ENABLED
```

VarName	Entity	Description
BxOutPin	1	Output 1
BxOutPin	2	Output 2
BxOutPin	3	Output 3
BxOutPin	4	Output 4
BxInPin	1	Input 1
BxInPin	2	Input 2
BxInPin	3	Input 3
BxInPin	4	Input 4
Switch	1	Software Switch 1
Switch	2	Software Switch 2
Switch	3	Software Switch 3
Switch	4	Software Switch 4
CloudLogging	0	Enable/Disable Logging Data to Cloud
GridInjection	0	Enable/Disable Grid Injection
BatteryCharging	0	Enable/Disable Battery Charging
BatteryChargingAC	0	Enable/Disable Battery Charging from AC
BatteryDischarging	0	Enable/Disable Battery Discharging to Load
IgnoreWarnings	0	Ignore Warning IDs typed in S1 (ex. '17922 17954')

CommandsIn

Commands that can be sent using the API, or other external programs

HEX	DEC	Entity	Text1	Text2
5100	20736	0	Switch Number => 1|2|3|4	0=OFF 1=ON 2=TOGGLE

EventLog

In EventLog are logged events that occur during execution of the Monitoring program

Source	Text1	Text2	HEX	DEC	Entity
BatterX	Start	vYY.MM.DD	400A	16394	0
GPIO	Set BxOutPin X	0 / 1	5000	20480	0
GPIO	Set BxInPin X	0 / 1	5000	20480	0
Command	Set Switch X	0 / 1	5100	20736	0
UPS	Set Grid Injection	0 / 1	5110	20752	0
UPS	Set Battery Charging	0 / 1	5111	20753	0
UPS	Set AC Battery Charging	0 / 1	5112	20754	0
UPS	Set Battery Discharging	0 / 1	5113	20755	0

batterX

Commands – CLOUD TABLE - SERVICE ONLY				
Commands that can be sent over the Cloud. The following table is to be used by the batterX service team only.				
HEX	**DEC**	**Entity**	**Text1**	**Text2**
5F00	24320	0	Shutdown	
5F01	24321	0	Reboot	
5F10	24336	0	Update	
5FF0	24560	0	Shell (Execute Shell Command)	{"command":"", "input":""}
5FFF	24575	0	Settings (Changes Local Settings)	Array with 13 elements
5100	20736	0	Switch Number => 1|2|3|4	0=OFF 1=ON 2=TOGGLE

CommandsIn – Device Parameters Setting

Type	Entity	Text2	Description
5E00 24064	0	yymmddhhffss	Set Inverter DateTime yymmddhhffss
5E01 24065	0	flag, state	Set Flag Status state : 1 = Enable 0 = Disable flag : A = Mute buzzer alarm B = Mute buzzer alarm in standby mode C = Mute buzzer alarm in battery mode D = Wide AC input range E = Generator as AC Input (h5/h10 only) F = N/G Relay Function (h5 only)
5E02 24066	0	flag, state	Set Energy Distribution state : 1 = Enable 0 = Disable flag : A = Allow battery charging B = Allow battery charging from AC C = Allow to feed-in to the Grid D = Allow battery to discharge when PV is available E = Allow battery to discharge when PV is unavailable F = Allow battery to feed-in to the Grid when PV is available G = Allow battery to feed-in to the Grid when PV is unavailable
5E03 24067	0	val	Set LCD Active Time val : 00 = Always On 01 = 30 seconds 02 = 60 seconds 10 = 300 seconds 20 = 600 seconds
5E04 24068		val	Waiting time before grid-connection val : 1 second
5E05 24069	0	val	Set Battery Type val : 0 = Ordinary 1 = Li-Fe
5E06 24070	0	val	Set Solar Energy Priority val : 0 = Battery Load Grid 1 = Load Battery Grid 2 = Load Grid Battery
5E10 24080	0	val	Set Min. Grid-connected Voltage val : 0.01 V
5E11 24081	0	val	Set Max. Grid-connected Voltage val : 0.01 V
5E12 24082	0	val	Set Min. Grid-connected Frequency val : 0.01 Hz
5E13 24083	0	val	Set Max. Grid-connected Frequency val : 0.01 Hz

5E14 24084	0	val	Set Max. Grid-connected Average Voltage val : 0.01 V
5E15 24085	0	val	Set Max. Grid Feed-in Power val : 1 W
5E20 24096	0	val	Set Min. PV Input Voltage val : 0.01 V
5E21 24097	0	val	Set Max. PV Input Voltage val : 0.01 V
5E22 24098	0	val	Set Min. MPPT Voltage val : 0.01 V
5E23 24099	0	val	Set Max. MPPT Voltage val : 0.01 V
5E30 24112	0	val	Set Max. Battery Charging Current val : 0.01 A
5E31 24113	0	val	Set Max. Battery Charging Current From AC val : 0.01 A
5E32 24114	0	bulk, float	Set Battery Charging Voltage bulk : 0.01 V (Bulk charging voltage) float : 0.01 V (Floating charging voltage)
5E33 24115	0	cH, rH, c, r	Set Battery Discharging Voltage cH : 0.01 V (Cut-off voltage when Grid is available) rH : 0.01 V (Re-discharging voltage when Grid is available) c : 0.01 V (Cut-off voltage when Grid is unavailable) r : 0.01 V (Re-discharging voltage when Grid is unavailable)
5E34 24116	0	val	Set Max. Battery Discharging Current in Hybrid Mode val : 1 A

The Current Device Parameters are logged in the Settings table with:

VarName InverterSettings

entity Last 2 digits from hex entity (5E34 => 34 | 5E05 => 5 | ...)

The Setting Events are logged in the EventLog table with:

Source UPS

Text1 Set ... ...

Text2 0 / 1 for h5 / h10 or NAK / ACK for h3 / h5-eco

...