Version V1.0.16 Release date 2017-03-08

TV7

Vendor ID	310 / 0x0136 - Bytes: 01 54 / 0x01 0x36
Device ID	733 / 0x0002DD - Bytes: 00 02 221 / 0x00 0x02 0xDD
Vendor name	ifm electronic gmbh
Vendor text	www.ifm.com
Vendor URL	http://www.ifm.com/ifmgb/web/io-link-download.htm

Communication

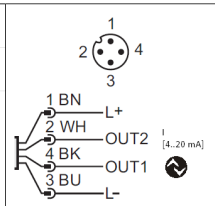
IO-Link revision	V1.1
Bit rate	COM2
Minimum cycle time	3.200 ms
SIO mode supported	Yes

Features

Block parametrization	Yes
Data storage	Yes

Device variant

TV7105	Electronic temperature sensor, -50.0...150 °C, Length 25 mm, Process connection G 1/4
TV7405	Electronic temperature sensor, -50.0...150 °C, Length 30 mm, Process connection G 1/2

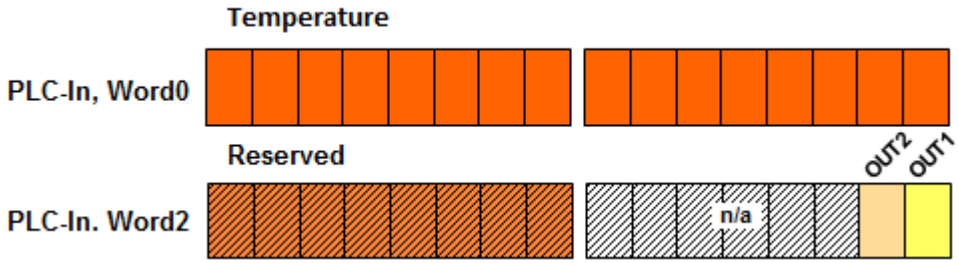


Process data

Total bit length = 32

(Process data input)

Name	Description	Data type	Bit length	Value range	Gradient	Offset	Unit
Temperature	Current temperature	IntegerT	16	**-500 to 1500** (-32760) UL (32760) OL (32764) NoData	0.1	0	°C
OUT2	Status depends on [OU2]	BooleanT		(false) inactive (true) active			
OUT1	Status depends on [OU1]	BooleanT		(false) inactive (true) active			



Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Standard Command										
	2	Sub 0	UIntegerT	8 Bit	wo		(130) Restore Factory Settings (165) Reset [Hi.T] and [Lo.T] memory (166) Reset [Lo.T] memory (167) Reset [Hi.T] memory (172) Reset overload counter [HITC] (240) IO-Link 1.1 system test command 240, Event 8DFE appears (241) IO-Link 1.1 system test command 241, Event 8DFE disappears (242) IO-Link 1.1 system test command 242, Event 8DFF appears (243) IO-Link 1.1 system test command 243, Event 8DFF disappears (255) Command without effect, for internal use only			
Device Access Locks										
	12	Sub 0	RecordT	16 Bit	rw					
Data Storage		bitOffs 1	BooleanT	1 Bit		(false)	(false) Unlocked (true) Locked			
Vendor Name										
	16	Sub 0	StringT	max 19 Byte	ro	ifm electronic gmbh				
Vendor Text										
	17	Sub 0	StringT	max 11 Byte	ro	www.ifm.com				
Product Name										
	18	Sub 0	StringT	max 6 Byte	ro					

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Product ID										
	19	Sub 0	StringT	max 6 Byte	ro					
Product Text										
	20	Sub 0	StringT	max 29 Byte	ro	Electronic Temperature Sensor				
Serial Number										
	21	Sub 0	StringT	max 12 Byte	ro					
Hardware Version										
	22	Sub 0	StringT	max 2 Byte	ro					
Firmware Version										
	23	Sub 0	StringT	max 5 Byte	ro					
Application Specific Tag										
	24	Sub 0	StringT	max 32 Byte	rw	***				
Device Status										
	36	Sub 0	UIntegerT	8 Bit	ro	(0) Device is OK	(0) Device is OK (1) Maintenance required (2) Out of specification (3) Functional check (4) Failure 5 to 255 (Reserved)			
Detailed Device Status										
	37	Sub 0	ArrayT	21 Byte	ro	00 00 00 h				

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
P-n	**Output polarity for the switching outputs**									
	500	Sub 0	UIntegerT	8 Bit	rw	(0) PnP	(0) PnP (1) nPn			
FOU1	**[OUT 1] behaviour in case of fault**									
	531	Sub 0	UIntegerT	8 Bit	rw	(4) OFF	(2) On (4) OFF			
FOU2	**[OUT 2] behaviour in case of fault**									
	532	Sub 0	UIntegerT	8 Bit	rw	(4) OFF	(2) On (4) OFF			

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Active Events	**Bit mask for current pending events**									
	545	Sub 0	RecordT	32 Bit	ro					
Bit_31, *Bit 31 indicates the assigned pending event*		bitOffs 31	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8DFF			
Bit_30, *Bit 30 indicates the assigned pending event*		bitOffs 30	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8DFE			
Bit_9, *Bit 9 indicates the assigned pending event*		bitOffs 9	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8C30			
Bit_8, *Bit 8 indicates the assigned pending event*		bitOffs 8	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8C10			
Bit_2, *Bit 2 indicates the assigned pending event*		bitOffs 2	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x7710			
Bit_1, *Bit 1 indicates the assigned pending event*		bitOffs 1	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x6320			
Bit_0, *Bit 0 indicates the assigned pending event*		bitOffs 0	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x5000			

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Param configuration fault	**Displays the wrongly set parameters**									
	546	Sub 0	ArrayT	10 * 32 Bit	ro	0	(0) OK (38010880) ou1 (38666240) ou2 (38207488) SP_FH1 (38273024) rP_FL1 (38862848) SP_FH2 (38928384) rP_FL2 (38076416) VDMA-dS1 (38141952) VDMA-dr1 (38731776) VDMA-dS2 (38797312) VDMA-dr2 (44630016) coFU (393805824) HITS (36700160) Hi (36765696) Lo (32768000) P-n (393871360) HITC_32 (34799616) FOU1 (34865152) FOU2 (36110336) uni (35717120) BitCoded_ActiveEvents (35717121) BitCoded_ActiveEvents.Bit_0 (35717122) BitCoded_ActiveEvents.Bit_1 (35717123) BitCoded_ActiveEvents.Bit_2 (35717124)			

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
							BitCoded_ActiveEvents.Bit_8 (35717125) BitCoded_ActiveEvents.Bit_9 (35717126) BitCoded_ActiveEvents.Bit_30 (35717127) BitCoded_ActiveEvents.Bit_31 (35782656) ParaConfigFaultCollection			
uni	**Selection of the physical unit**									
	551	Sub 0	UIntegerT	8 Bit	rw	(0) °C	 (0) °C (1) °F			
Hi	**Maximum memory value**									
	560	Sub 0	IntegerT	16 Bit	ro	()	 **-500 to 1500** (-32760) UL (32760) OL (32764) NoData	0.1	0	°C
Lo	**Minimum memory value**									
	561	Sub 0	IntegerT	16 Bit	ro	()	 **-500 to 1500** (-32760) UL (32760) OL (32764) NoData	0.1	0	°C

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
ou1	**Output configuration [OUT 1]**									
	580	Sub 0	UIntegerT	8 Bit	rw	(3) Hno / Hysteresis fct normally open	(3) Hno / Hysteresis fct normally open (4) Hnc / Hysteresis fct normally closed (5) Fno / Window fct normally open (6) Fnc / Window fct normally closed			
dS1	**Switching delay for [OUT 1]**									
	581	Sub 0	UIntegerT	16 Bit	rw	0	0 to 500	0.1	0	s
dr1	**Reset delay for [OUT 1]**									
	582	Sub 0	UIntegerT	16 Bit	rw	0	0 to 500	0.1	0	s
SP_FH1	**Switch point 1, [SP1] must be greater than [rP1]. Please take into account the current [rP1] value. [SP1] will be refused if below [rP1]. [SP] = [FH] and [rP] = [FL] if [OU1] = Fno, Fnc**									
	583	Sub 0	IntegerT	16 Bit	rw	600	-498 to 1500	0.1	0	°C
rP_FL1	**Reset point 1, [rP1] must be smaller than [SP1]. Please take into account the current [SP1] value.l[rP1] will be refused if above [SP1]. [rP] = [FL] and [SP] = [FH] if [OU1] = Fno, Fnc**									
	584	Sub 0	IntegerT	16 Bit	rw	500	-500 to 1498	0.1	0	°C
ou2	**Output configuration [OUT 2]**									
	590	Sub 0	UIntegerT	8 Bit	rw	(3) Hno / Hysteresis fct normally open	(3) Hno / Hysteresis fct normally open (4) Hnc / Hysteresis fct normally closed (5) Fno / Window fct normally open (6) Fnc / Window fct normally closed			
dS2	**Switching delay for [OUT 2]**									
	591	Sub 0	UIntegerT	16 Bit	rw	0	0 to 500	0.1	0	s

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
dr2	**Reset delay for [OUT 2]**									
	592	Sub 0	UIntegerT	16 Bit	rw	0	0 to 500	0.1	0	s
SP_FH2	**Switch point 2, [SP2] must be greater than [rP2]. Please take into account the current [rP2] value. [SP2] will be refused if below [rP2]. [SP] = [FH] and [rP] = [FL] if [OU2] = Fno, Fnc**									
	593	Sub 0	IntegerT	16 Bit	rw	1200	-498 to 1500	0.1	0	°C
rP_FL2	**Reset point 2, [rP2] must be smaller than [SP2]. Please take into account the current [SP2] value.I[rP2] will be refused if above [SP2]. [rP] = [FL] and [SP] = [FH] if [OU2] = Fno, Fnc**									
	594	Sub 0	IntegerT	16 Bit	rw	1000	-500 to 1498	0.1	0	°C
coF	**Zero-point calibration (Calibration offset)**									
	681	Sub 0	IntegerT	16 Bit	rw	0	-100 to 100	0.1	0	°C
HITS	**Configuration of temperature overload counter switch point**									
	6009	Sub 0	IntegerT	16 Bit	rw	1500	-500 to 1500	0.1	0	°C
HITC	**Temperature overload counter**									
	6010	Sub 0	UIntegerT	32 Bit	ro	0	0 to 4294967295	1	0	

Events

Code	Name	Type	Description
20480 d / 50 00 h	Device hardware fault	Error	Device Exchange
25376 d / 63 20 h	Parameter error	Error	Check data sheet and values
30480 d / 77 10 h	Short circuit	Error	Check installation
35856 d / 8C 10 h	Process variable range over-run	Warning	Process data uncertain. Note: This Event will not be transmitted via IO-Link Event mechanism. It is only available by reading Index 37 (DetailedDeviceStatus) oder 545 (BitCoded_ActiveEvents)
35888 d / 8C 30 h	Process variable range under-run	Warning	Process data uncertain. Note: This Event will not be transmitted via IO-Link Event mechanism. It is only available by reading Index 37 (DetailedDeviceStatus) oder 545 (BitCoded_ActiveEvents)
36350 d / 8D FE h	Test Event 1	Warning	Event appears by setting index 2 to value 240, Event disappears by setting index 2 to value 241

Events

Code	Name	Type	Description
36351 d / 8D FF h	Test Event 2	Warning	Event appears by setting index 2 to value 242, Event disappears by setting index 2 to value 243

Error types

Error code	Name	Description
32768 d / 80 00 h	Device application error - no details	Service has been refused by the device application and no detailed information of the incident is available
32785 d / 80 11 h	Index not available	Access occurs to a not existing index
32786 d / 80 12 h	Subindex not available	Access occurs to a not existing subindex
32800 d / 80 20 h	Service temporarily not available	Parameter is not accessible due to the current state of the device application
32803 d / 80 23 h	Access denied	Write access on a read-only parameter
32816 d / 80 30 h	Parameter value out of range	Written parameter value is outside its permitted value range
32819 d / 80 33 h	Parameter length overrun	Written parameter length is above its predefined length
32820 d / 80 34 h	Parameter length underrun	Written parameter length is below its predefined length
32821 d / 80 35 h	Function not available	Written command is not supported by the device application
32822 d / 80 36 h	Function temporarily unavailable	Written command is not available due to the current state of the device application
32832 d / 80 40 h	Invalid parameter set	Written single parameter collides with other actual parameter settings
32833 d / 80 41 h	Inconsistent parameter set	Parameter inconsistencies were found at the end of block parameter transfer, device plausibility check failed
32898 d / 80 82 h	Application not ready	Read or write service is refused due to a temporarily unavailable application