Version V1.3.54.803448 Release date 2019-03-07

PN7

Vendor ID	310 / 0x0136 - Bytes: 01 54 / 0x01 0x36
Device ID	631 / 0x000277 - Bytes: 00 02 119 / 0x00 0x02 0x77
Vendor name	ifm electronic gmbh
Vendor text	www.ifm.com
Vendor URL	http://www.ifm.com/gb/en/downloadarea/IOContent

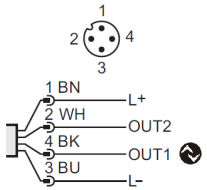
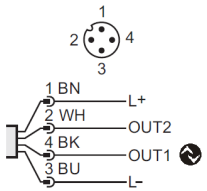
Communication

IO-Link revision	V1.1
Bit rate	COM2
Minimum cycle time	3.000 ms
SIO mode supported	Yes

Features

Block parametrization	Yes
Data storage	Yes

Device variant

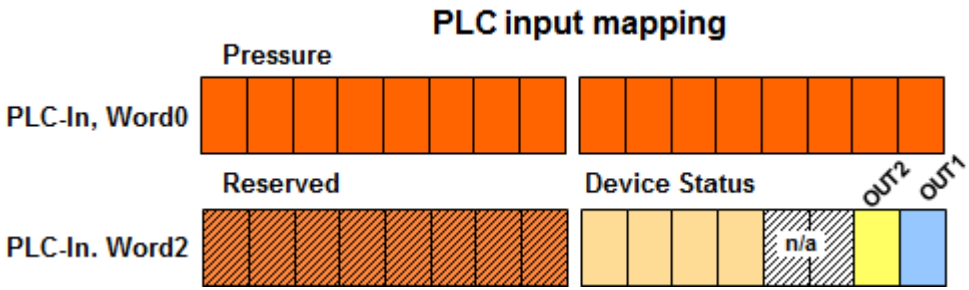
PN7293 Status B	Electronic pressure sensor, 0.0...25.0 bar / 0...363 psi, ISO228 - G1/4I		
PN7693 Status B	Electronic pressure sensor, 0.0...25.0 bar / 0...363 psi, ISO228 - G1/4A		

Process data

Total bit length = 32

(Process data input)

Name	Description	Data type	Bit length	Value range	Gradient	Offset	Unit
Pressure	Current pressure	IntegerT	16	**-1000 to 26250** (32760) OL (32764) NoData	0.01452	0	psi
Device status	Current device status, a copy of the parameter [Device Status, Index 36] in the process data channel	UIntegerT	4	(0) Device is OK (1) Maintenance required (2) Out of specification (3) Functional check (4) Failure			
OUT2	Current status of the digital signal [OUT2]	BooleanT		(false) OFF (true) On			
OUT1	Current status of the digital signal [OUT1]	BooleanT		(false) OFF (true) On			



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 (161) Reset [Hi] and [Lo] memory (162) Reset [Lo] memory (163) Reset [Hi] memory (169) Reset overload counter [HIPC] (222) Flash On (223) Flash Off (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			
Local User Interface		bitOffs 3	BooleanT	1 Bit		(false)	(false) Unlocked (true) Locked			
Vendor Name										
	16	Sub 0	StringT	max 19 Byte	ro	ifm electronic gmbh				

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Vendor Text										
	17	Sub 0	StringT	max 11 Byte	ro	www.ifm.com				
Product Name										
	18	Sub 0	StringT	max 15 Byte	ro					
Product ID										
	19	Sub 0	StringT	max 6 Byte	ro					
Product Text										
	20	Sub 0	StringT	max 26 Byte	ro	Electronic pressure 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	***				

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
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	24 Byte	ro	00 00 00 h				
Function Tag	**Plant designation, describes the device functionality**									
	25	Sub 0	StringT	32	rw	***				
Location Tag	**Location designation, identifies the device location**									
	26	Sub 0	StringT	32	rw	***				
P-n	**Output polarity for the switching outputs**									
	500	Sub 0	UIntegerT	8 Bit	rw	(0) PnP	(0) PnP (1) nPn			
dAP	**Damping of the measured signal**									
	510	Sub 0	UIntegerT	16 Bit	rw	60	0 to 4000	0.001	0	s

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, *Test Event 2. Device Status = 1 (Maintenance required)*		bitOffs 31	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8DFF			
Bit_30, *Test Event 1. Device Status = 1 (Maintenance required)*		bitOffs 30	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8DFE			
Bit_29, *Flash sequence active. Device Status = 1 (Maintenance required)*		bitOffs 29	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8CDB			
Bit_9, *Process variable range under-run*		bitOffs 9	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8C30			
Bit_8, *Process variable range over-run*		bitOffs 8	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x8C10			
Bit_2, *Short circuit*		bitOffs 2	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x7710			
Bit_1, *Parameter error*		bitOffs 1	BooleanT	1 Bit		(0) noEv	(0) noEv (1) 0x6320			
Bit_0, *Device hardware fault*		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
Param configuration fault	**Displays the incorrectly set parameters**									
	546	Sub 0	ArrayT	10 * 32 Bit	ro	0	(0) OK (786432) Device Access Locks, Index = 12 (38207488) SP1 / FH1 - PRES, Index = 583 (38273024) rP1 / FL1 - PRES, Index = 584 (38862848) SP2 / FH2 - PRES, Index = 593 (38928384) rP2 / FL2 - PRES, Index = 594 (38010880) ou1, Index = 580 (38666240) ou2, Index = 590 (38076416) dS1, Index = 581 (38141952) dr1, Index = 582 (38731776) dS2, Index = 591 (38797312) dr2, Index = 592 (36110336) uni, Index = 551 (32768000) P-n, Index = 500 (33423360) dAP, Index = 510 (36306944) coLr, Index = 554 (36438016) cFH, Index = 556 (36372480) cFL, Index = 555 (36175872) diS, Index = 552 (36044800) Loc, Index = 550 (327876608) HIPS, Index = 5003			

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Loc	**[Loc] locks the local user interface to prevent unintentional changes, [Loc] is resettable at the device**									
	550	Sub 0	UIntegerT	8 Bit	rw	(1) uLoc	(0) Loc (1) uLoc			
uni	**Selection of the physical unit**									
	551	Sub 0	UIntegerT	8 Bit	rw	(2) psi	(0) MPa (1) bar (2) psi			
diS	**Display settings**									
	552	Sub 0	RecordT	16 Bit	rw					
Display On / OFF		bitOffs 7	BooleanT	1 Bit		(false) On	(false) On (true) OFF			
Display orientation		bitOffs 6	BooleanT	1 Bit		(false) Not rotated	(false) Not rotated (true) Rotated 180°			
Update rate		bitOffs 0	UIntegerT	6 Bit		(2) d2 / medium	(1) d1 / fast (2) d2 / medium (4) d3 / slow			

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
coLr	**Colour configuration of the display**									
	554	Sub 0	UIntegerT	8 Bit	rw	(2) rEd / Displayed value red	(2) rEd / Displayed value red (3) GrEn / Displayed value green (4) r1ou / Displayed value red when OUT1 switches (5) G1ou / Displayed value green when OUT1 switches (6) r2ou / Displayed value red when OUT2 switches (7) G2ou / Displayed value green when OUT2 switches (8) r-12 / Displayed value red when the measured value is inside the limits of OUT1 and OUT2 (9) G-12 / Displayed value green when the measured value is inside the limits of OUT1 and OUT2 (10) r-cF / Displayed value red when the measured value is inside the limits of [cFL] and [cFH] (11) G-cF / Displayed value green when the measured value is inside the limits of [cFL] and [cFH]			
cFL	**Lower value for colour change. Parameter only active if coLr = [r-cF] or [G-cF]. The setting range is limited to its maximum by [cFH].** **! Rounded on stepwidth !**									
	555	Sub 0	IntegerT	16 Bit	rw	0	0 to 24875	0.01452	0	psi
cFH	**Upper value for colour change. Parameter only active if coLr = [r-cF] or [G-cF]. The setting range is limmited to its minimum by [cFL].** **! Rounded on stepwidth !**									
	556	Sub 0	IntegerT	16 Bit	rw	25000	125 to 25000	0.01452	0	psi

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Hi	**Maximum memory value**									
	560	Sub 0	IntegerT	16 Bit	ro	()	**-1000 to 26250** (32760) OL (32764) NoData	0.01452	0	psi
Lo	**Minimum memory value**									
	561	Sub 0	IntegerT	16 Bit	ro	()	**-1000 to 26250** (32760) OL (32764) NoData	0.01452	0	psi
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 (16) OFF / Output Off			
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
SP1 / FH1 - PRES	**Switch point 1 / Pressure, [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.** **! Rounded on stepwidth !**									
	583	Sub 0	IntegerT	16 Bit	rw	6250	210 to 25000	0.01452	0	psi

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
rP1 / FL1 - PRES	**Reset point 1 / Pressure, [rP1] must be smaller than [SP1]. Please take into account the current [SP1] value.I[rP1] will be refused if above [SP1]. [rP] = [FL] and [SP] = [FH] if [OU1] = Fno, Fnc.** **! Rounded on stepwidth !**									
	584	Sub 0	IntegerT	16 Bit	rw	5750	85 to 24875	0.01452	0	psi
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 (16) OFF / Output Off			
dS2	**Switching delay for [OUT 2]**									
	591	Sub 0	UIntegerT	16 Bit	rw	0	0 to 500	0.1	0	s
dr2	**Reset delay for [OUT 2]**									
	592	Sub 0	UIntegerT	16 Bit	rw	0	0 to 500	0.1	0	s
SP2 / FH2 - PRES	**Switch point 2 / Pressure, [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.** **! Rounded on stepwidth !**									
	593	Sub 0	IntegerT	16 Bit	rw	18750	210 to 25000	0.01452	0	psi
rP2 / FL2 - PRES	**Reset point 2 / Pressure, [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.** **! Rounded on stepwidth !**									
	594	Sub 0	IntegerT	16 Bit	rw	18250	85 to 24875	0.01452	0	psi
HIPS	**Configuration of pressure overload counter switch point**									
	5003	Sub 0	IntegerT	16 Bit	rw	25000	0 to 25000	0.01452	0	psi

Variables

Name	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
HIPC	**Pressure overload counter**									
	5004	Sub 0	UIntegerT	32 Bit	ro		0 to 4294967295	1	0	
MDC Descr	**Description of the measurement data channel**									
	16512		RecordT	88 Bit	ro					
Lower limit, Lower value measurement range		Sub 1	IntegerT	32 Bit		(0) 0	(0) 0			
Upper limit, Upper value measurement range		Sub 2	IntegerT	32 Bit		(25000) 25000	(25000) 25000			
Unit code, Unit code of the measurement data		Sub 3	UIntegerT	16 Bit		(1130) Pa	(1130) Pa			
Scale, Range shifting (10 scale)		Sub 4	IntegerT	8 Bit		(2) 2	(2) 2			

Events

Code	Name	Type	Description
35888 d / 8C 30 h	Process variable range under-run, Device Status = 2 (Out of specification)	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)
35856 d / 8C 10 h	Process variable range over-run, Device Status = 2 (Out of specification)	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)
30480 d / 77 10 h	Short circuit, Device Status = 3 (Functional check)	Error	Check installation
25376 d / 63 20 h	Parameter error, Device Status = 3 (Functional check)	Error	Check data sheet and values
20480 d / 50 00 h	Device hardware fault, Device Status = 4 (Failure)	Error	Device Exchange

Events

Code	Name	Type	Description
36351 d / 8D FF h	Test Event 2. Device Status = 1 (Maintenance required)	Warning	Event appears by setting index 2 to value 242, Event disappears by setting index 2 to value 243
36350 d / 8D FE h	Test Event 1. Device Status = 1 (Maintenance required)	Warning	Event appears by setting index 2 to value 240, Event disappears by setting index 2 to value 241
36059 d / 8C DB h	Flash sequence active. Device Status = 1 (Maintenance required)	Warning	Deactivate flash sequence

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
32801 d / 80 21 h	Service temporarily not available - local control	Parameter is not accessible due to an ongoing local operation at the device
32802 d / 80 22 h	Service temporarily not available - device control	Parameter is not accessible due to a remote triggered 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