



IO-Link Device Description (IO-Link Schnittstellenbeschreibung)

Buehler-BPM-100-20250227-IODD1.1



IO-LINK DEVICE DESCRIPTION

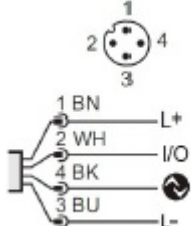
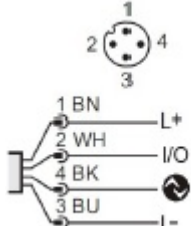
BPM-100

Vendor ID:	795 (0x031b)
Vendor Name:	Buehler
Vendor Text:	www.buehler-technologies.com
Vendor URL:	www.buehler-technologies.com
Device ID:	5653632
DeviceFamily:	Lubrication Contamination Sensors
Features	
Block Parameter:	yes
Data Storage:	yes
Profile Characteristic:	0x4000 (Common Application Profile: Identification and Diagnosis), 0x8101 (Function Class: Locator), 0x8102 (Function Class: Product URI)

Communication

IO-Link Revision:	V1.1
Transmission Rate:	38400 bit/s (COM2)
Minimum Cycle Time:	5.2 ms
SIO Mode Supported:	no
M-Sequence Capability:	PREOPERATE = TYPE_1_V with 8 octets on-request data OPERATE = TYPE_2_V with 2 octets on-request data ISDU supported

DEVICE VARIANT

Product ID	Description	Symbol	Connector
BPM-100-000-1D1S	Oil particle monitor		
BPM-100-010-1D1S	Oil particle monitor		

PROCESS DATA

ProcessData id=P_ProcessData0 (condition V_PDSelect = 0)

ProcessDataIn "PD Input ISO 4406" id=PI_PDin_0

bit length: 72

data type: 72-bit Record (subindex access not supported)

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	64	8-bit UInteger	0..28					ISO4um	ISO Class 4µm
2	56	8-bit UInteger	0..28					ISO6um	ISO Class 6µm
3	48	8-bit UInteger	0..28					ISO14um	ISO Class 14µm
4	40	8-bit UInteger	0..28					ISO21um	ISO Class 21µm
5	24	16-bit Integer	-32762 = cr_UL, -32760 = UL, 32760 = OL, 32762 = cr_OL, 32764 = NoData, -300..1200					Temperature	Temperature
6	8	16-bit UInteger	0..500					FlowIndex	Flow Index
7	0	8-bit UInteger	0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure, 5..15 = reserved					Device Status	Current device status, a copy of the parameter [Device Status, Index 36] in the process data channel

ProcessData id=P_ProcessData1 (condition V_PDSelect = 1)

ProcessDataIn "PD Input SAE AS 4059E" id=PI_PDin_1

bit length: 72

data type: 72-bit Record (subindex access not supported)

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	64	8-bit UInteger	0..14					SAE4um	SAE Class 4µm
2	56	8-bit UInteger	0..14					SAE6um	SAE Class 6µm
3	48	8-bit UInteger	0..14					SAE 14um	SAE Class 14µm
4	40	8-bit UInteger	0..14					SAE21um	SAE Class 21µm
5	24	16-bit Integer	-32762 = cr_UL, -32760 = UL, 32760 = OL, 32762 = cr_OL, 32764 = NoData, -300..1200					Temperature	Temperature
6	8	16-bit UInteger	0..500					FlowIndex	Flow Index
7	0	8-bit UInteger	0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure, 5..15 = reserved					Device Status	Current device status, a copy of the parameter [Device Status, Index 36] in the process data channel

ProcessData id=P_ProcessData2 (condition V_PDSelect = 2)**ProcessDataIn "PD Input NAS 1638" id=PI_PDin_2**

bit length: 72

data type: 72-bit Record (subindex access not supported)

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	64	8-bit UInteger	0..13					NAS	NAS Class
2	56	8-bit UInteger						reserved	reserved
3	48	8-bit UInteger						reserved	reserved
4	40	8-bit UInteger						reserved	reserved
5	24	16-bit Integer	-32762 = cr_UL, -32760 = UL, 32760 = OL, 32762 = cr_OL, 32764 = NoData, -300..1200					Temperature	Temperature
6	8	16-bit UInteger	0..500					FlowIndex	Flow Index
7	0	8-bit UInteger	0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure, 5..15 = reserved					Device Status	Current device status, a copy of the parameter [Device Status, Index 36] in the process data channel

ProcessData id=P_ProcessData3 (condition V_PDSelect = 3)**ProcessDataIn "PD Input GOST 17216" id=PI_PDin_3**

bit length: 72

data type: 72-bit Record (subindex access not supported)

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	64	8-bit UInteger	0..18					GOST	GOST Class
2	56	8-bit UInteger						reserved	reserved
3	48	8-bit UInteger						reserved	reserved
4	40	8-bit UInteger						reserved	reserved
5	24	16-bit Integer	-32762 = cr_UL, -32760 = UL, 32760 = OL, 32762 = cr_OL, 32764 = NoData, -300..1200					Temperature	Temperature
6	8	16-bit UInteger	0..500					FlowIndex	Flow Index
7	0	8-bit UInteger	0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure, 5..15 = reserved					Device Status	Current device status, a copy of the parameter [Device Status, Index 36] in the process data channel

Process Data Formatting

Formatting for Process Data id=PI_PDin_0

Subindex 1:

Subindex 2:

Subindex 3:

Subindex 4:

Subindex 5: * 0.1 °C Dec.1

Subindex 6:

Subindex 7:

Formatting for Process Data id=PI_PDin_1

Subindex 1: + -2

Subindex 2: + -2

Subindex 3: + -2

Subindex 4: + -2

Subindex 5: * 0.1 °C Dec.1

Subindex 6:

Subindex 7:

Formatting for Process Data id=PI_PDin_2

Subindex 1: + -1

Subindex 5: * 0.1 °C Dec.1

Subindex 6:

Subindex 7:

Formatting for Process Data id=PI_PDin_3

Subindex 1: + -1

Subindex 5: * 0.1 °C Dec.1

Subindex 6:

Subindex 7:

STANDARD VARIABLE

Standard Variable "Direct Parameters - Page 1" index=0 id=V_DirectParameters_1

description: Comprises the required parameters defining the communication characteristics and identifiers for device validation.

data type: 128-bit Record

access rights: rw

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	120	8-bit UInteger			ro			Reserved	
2	112	8-bit UInteger			ro			Master Cycle Time	Communication: Current communication cycle duration used by the master. This value defines the process data cycle.
3	104	8-bit UInteger			ro			Min Cycle Time	Communication: Minimum communication cycle duration supported by the device. This value defines the lowest possible process data cycle.
4	96	8-bit UInteger			ro			M-Sequence Capability	Communication: Information on the structure and the supported features of the communication messages.
5	88	8-bit UInteger		17	ro			IO-Link Revision ID	Communication: Identifier for the currently used communication protocol revision.
6	80	8-bit UInteger			ro			Process Data Input Length	Communication: Information on width and features of the process input data (Process Data from Device to Master).
7	72	8-bit UInteger			ro			Process Data Output Length	Communication: Information on width of the process output data (Process Data from Master to Device).
8	64	8-bit UInteger			ro			Vendor ID 1	Identification: Highest octet of the Vendor ID. Combined with the parameter Vendor ID 2, this parameter defines the 16-bit value of the unique Vendor ID as assigned by the IO-Link Community.
9	56	8-bit UInteger			ro			Vendor ID 2	Identification: Lowest octet of the Vendor ID. Combined with the parameter Vendor ID 1, this parameter defines the 16-bit value of the unique Vendor ID as assigned by the IO-Link Community.
10	48	8-bit UInteger			ro			Device ID 1	Identification: Highest octet of the Device ID. Combined with the parameters Device ID 2 and 3, this parameter defines the 24-bit value of the vendor-specific Device ID.

11	40	8-bit UInteger			ro		Device ID 2	Identification: Middle octet of the Device ID. Combined with the parameters Device ID 1 and 3, this parameter defines the 24-bit value of the vendor- specific Device ID.
12	32	8-bit UInteger			ro		Device ID 3	Identification: Lowest octet of the Device ID. Combined with the parameters Device ID 1 and 2, this parameter defines the 24-bit value of the vendor- specific Device ID.
13	24	8-bit UInteger			ro		Reserved	
14	16	8-bit UInteger			ro		Reserved	
15	8	8-bit UInteger			ro		Reserved	
16	0	8-bit UInteger			wo	X	System Command	Application: Command interface for devices without ISDU support. Validity and execution of commands are not confirmed.

Standard Variable "System Command" index=2 id=V_SystemCommand

description: Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.

data type: 8-bit UInteger

allowed values: 126 = Locator Start, 127 = Locator Stop, 128 = Device Reset, 129 = Application Reset, 131 = Back-to-box, 200 = Measurement started, 201 = Measurement stoped, 203 = Measurement result will be read, 204 = The History Memory of device will be cleared, Event 0x1802 appears. Event 0x1802 disappears when Memory clear is done, 240 = IO-Link 1.1 system test command 240, Event 0x8DFE appears, 241 = IO-Link 1.1 system test command 241, Event 0x8DFE disappears, 242 = IO-Link 1.1 system test command 242, Event 0x8DFF appears, 243 = IO-Link 1.1 system test command 243, Event 0x8DFF disappears

access rights: wo

modifies other variables

Standard Variable "Vendor Name" index=16 id=V_VendorName

description: The vendor name that is assigned to a Vendor ID.

data type: 64-octet String UTF-8

default value: "Bühler Technologies GmbH"

access rights: ro

Standard Variable "Vendor Text" index=17 id=V_VendorText

description: Additional information about the vendor.

data type: 64-octet String UTF-8

default value: "www.buehler-technologies.com"

access rights: ro

Standard Variable "Product Name" index=18 id=V_ProductName

description: Complete product name.

data type: 64-octet String UTF-8

access rights: ro

Standard Variable "Product ID" index=19 id=V_ProductID

description: Vendor-specific product or type identification (e.g., item number or model number).

data type: 64-octet String UTF-8

access rights: ro

Standard Variable "Product Text" index=20 id=V_ProductText

description: Additional product information for the device.

data type: 64-octet String UTF-8

access rights: ro

Standard Variable "Serial Number" index=21 id=V_SerialNumber

description: Unique, vendor-specific identifier of the individual device.

data type: 12-octet String UTF-8

access rights: ro

Standard Variable "Hardware Revision" index=22 id=V_HardwareRevision

description: Unique, vendor-specific identifier of the hardware revision of the individual device.

data type: 8-octet String UTF-8

access rights: ro

Standard Variable "Firmware Revision" index=23 id=V_FirmwareRevision

description: Unique, vendor-specific identifier of the firmware revision of the individual device.

data type: 8-octet String UTF-8

access rights: ro

Standard Variable "Application-specific Tag" index=24 id=V_ApplicationSpecificTag

description: Possibility to mark a device with user- or application-specific information.

data type: 32-octet String UTF-8

default value: "****"

access rights: rw

Standard Variable "Device Status" index=36 id=V_DeviceStatus

description: Indicator for the current device condition and diagnosis state.

data type: 8-bit UInteger

allowed values: 0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure

access rights: ro

dynamic

Standard Variable "Detailed Device Status" index=37 id=V_DetailedDeviceStatus

description: List of all currently pending events in the device.

data type: Array[11] of 3-octet OctetString (subindex access not supported)

access rights: ro

dynamic

Standard Variable "PD Input" index=40 id=V_ProcessDataInput

description: Last valid process input data of the device.

data type: see ProcessDataIn!

access rights: ro

dynamic

VARIABLE**Variable "Function Tag" index=25 id=V_CP_FunctionTag**

description: Possibility to mark a device with function-specific information.

data type: 32-octet String UTF-8

default value: ""

access rights: rw

Variable "Location Tag" index=26 id=V_CP_LocationTag

description: Possibility to mark a device with location-specific information.

data type: 32-octet String UTF-8

default value: ""

access rights: rw

Variable "Product URI" index=27 id=V_CP_ProductURI

description: Provides a unique instance identification compliant to DIN-SPEC 91406.

data type: 100-octet String US_ASCII

access rights: ro

Variable "Process Data Select" index=66 id=V_PDSelect

description: Selects one of the available process data sets and corresponding information.

data type: 8-bit UInteger

allowed values: 0 = PD ISO, 1 = PD SAE, 2 = PD NAS, 3 = PD GOST

default value: 0

access rights: rw

dynamic

Variable "Test Parameter 252" index=252 id=V_test_param_252

description: Generate Events

data type: 8-bit UInteger

allowed values: 0 = A Appear, 1 = A Disappear, 2 = B Appear, 3 = B Disappear

access rights: wo

Variable "Test Parameter 253" index=253 id=V_test_param_253

description: 8-bit-index R/W

data type: 8-bit UInteger

default value: 0

access rights: rw

excluded from data storage

Variable "Power cycles" index=541 id=V_Number_Of_Powercycles

description: Number of power cycles since delivery

data type: 32-bit Integer

default value: 0

access rights: ro

dynamic

Variable "Operating hours" index=542 id=V_Operating_Hours

description: Counter of the operating hours since delivery

data type: 32-bit Integer

default value: 0

access rights: ro

dynamic

Variable "Laser Operation hours" index=543 id=V_LaserOperationHours

description: Counter of the laser operating hours since delivery

data type: 32-bit UInteger

default value: 0

access rights: ro

dynamic

Variable "Time Stamp Actual" index=544 id=V_Actual_Timestamp

description: actual up time in seconds

data type: 32-bit UInteger

access rights: ro

dynamic

Variable "Timestamp of last measurement" index=545 id=V_TimestampLastMeasurement

description: Timestamp of last measurement in seconds

data type: 32-bit UInteger

access rights: ro

dynamic

Variable "Time to calibration note S1" index=546 id=V_TimeToCalibNoteS1

description: Time to calibration note S1 in hours

data type: 32-bit UInteger

access rights: ro

dynamic

Variable "Temperature" index=560 id=V_Temperature

description: Temperature

data type: 16-bit Integer

allowed values: -32762 = cr_UL, -32760 = UL, 32760 = OL, 32762 = cr_OL, 32764 = NoData, -300..1200

access rights: ro

dynamic

Variable "FlowIndex" index=561 id=V_Flowindex

description: Flow Index

data type: 16-bit UInteger allowed values: 0..500

access rights: ro

dynamic

Variable "Concentration" index=600 id=V_Concentration

description: Particle Concentration

data type: 128-bit Record

access rights: ro

dynamic

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	96	32-bit UInteger		0	ro			Conc4um	Particle Concentration 4µm
2	64	32-bit UInteger		0	ro			Conc6um	Particle Concentration 6µm
3	32	32-bit UInteger		0	ro			Conc14um	Particle Concentration 14µm
4	0	32-bit UInteger		0	ro			Conc21um	Particle Concentration 21µm

Variable "Display Language" index=601 id=V_DisplayLanguage

description: Language used in display

data type: 8-bit Integer

allowed values: 0 = English, 1 = Deutsch, 2 = Francaise, 3 = Nederlands, 4 = Cesky, 5 = Espanol, 6 = Italiano, 7 = Portugues, 8 = Polski, 9 = Turkce

default value: 0

access rights: rw

dynamic

Variable "Oil Condition Bits" index=602 id=V_OilConditionBits

description: Condition monitoring Bits

data type: 64-bit Record

access rights: ro

dynamic

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
2	62	Boolean	false = concentration ISO 4 greater than 9, true = concentration ISO4 less than or equal to 9					Concentration low	concentration too low
3	61	Boolean	false = autoparts reached, true = autoparts not reached					Autoparts	autoparts not reached
4	60	Boolean	false = Auto Measure Time less than 300s, true = Auto Measure Time greater than or equal to 300s					Auto Measure Time	Auto Measure Time reached
5	59	Boolean	false = measurement plausible, true = measurement not plausible					Plausible	measurement not plausible
6	58	Boolean	false = flow rate greater than or equal to 50, true = flow rate less than 50					Flow low	flow too low
7	57	Boolean	false = flow less than or equal to 400, true = flow greater than 400					Flow high	flow too high
8	56	Boolean	false = concentration limit not exceeded, true = concentration limit exceeded					Concentration limit	concentration limit exceeded
31	33	Boolean	false = Calibration limit S5 not reached, true = Calibration limit S5 reached					Calibration limit S5	Calibration limit S5 reached
32	32	Boolean	false = Calibration limit S1 not reached, true = Calibration limit S1 reached					Calibration limit S1	Calibration limit S1 reached
49	15	Boolean	false = temperature OK, true = temperature alarm					Temperature alarm	temperature alarm
50	14	Boolean	false = concentration less than ISO 23, true = concentration greater than or equal ISO 23					Concentration alarm	concentration alarm
51	13	Boolean	false = power up done, true = device power up					Power up	power up
52	12	Boolean	false = Standard alarm mode, true = Filtered alarm mode					Alarm mode	alarm mode
53	11	Boolean	false = Operation mode button not activ, true = Operation mode button activ					Operation mode button	Operation mode button activ
54	10	Boolean	false = Operation mode digital not activ, true = Operation mode digital activ					Operation mode digital	Operation mode digital I/O activ
55	9	Boolean	false = Operation mode time not activ, true = Operation mode time activ					Operation mode time	Operation mode time activ

56	8	Boolean	false = measurement not running, true = measurement is running					Measurement running	measurement running
57	7	Boolean	false = Operation mode not auto, true = Operation mode auto					Operation auto	Operation mode auto activ
59	5	Boolean	false = Temperature greater than or equal to -20degC, true = Temperature less than -20degC					Temperature low	Temperature too low
60	4	Boolean	false = Temperature less than or equal to 80degC, true = Temperature greater than 80degC					Temperature high	Temperature too high
61	3	Boolean	false = voltage greater than or equal to 1V under setpoint, true = voltage less than 1V under setpoint					Voltage low	Voltage too low
62	2	Boolean	false = voltage less than or equal to 1V above setpoint, true = voltage greater than 1V above setpoint					Voltage high	Voltage too high
63	1	Boolean	false = Laser current greater than 1mA, true = Laser current less than 1mA					Laser current low	Laser current too low
64	0	Boolean	false = Laser current less than 2800uA, true = Laser current greater than 2800uA					Laser current high	Laser current too high

Variable "Operation Mode" index=603 id=V_OperationMode

description: Set Operation Mode

data type: 16-bit UInteger

allowed values: 0 = time control, 1 = digital IO, 2 = button, 3 = automatic

access rights: rw

dynamic

Variable "Time controlled measurement" index=604 id=V_TimeMeasurement

description: Setup measurement and hold time

data type: 64-bit Record

access rights: rw

dynamic

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	32	32-bit UInteger	30..300 = Measurement Time limits	60				Measurement Time	Measurement Time in seconds
2	0	32-bit UInteger	1..86399 = Hold Time limits	10				Hold Time	Time between measurements in seconds

Variable "History Disable" index=610 id=V_HistoryDisable

description: Disable history memory

data type: 16-bit UInteger

allowed values: 0 = History enabled, 1 = History disabled

access rights: rw

dynamic

Variable "History Size" index=611 id=V_HistoryMemSize

description: Size of memory in datasets

data type: 32-bit UInteger

access rights: ro

Variable "History Used" index=612 id=V_HistoryMemUsed

description: Used memory in datasets

data type: 32-bit UInteger

access rights: ro

dynamic

Variable "History Index" index=613 id=V_HistoryIndex

description: Pointer to actual dataset

data type: 32-bit UInteger

allowed values: 0..1 = Index Limit for IO-Link Conformance Test

access rights: rw

dynamic

excluded from data storage

Variable "History Dataset" index=615 id=V_HistoryDataset

description: Dataset in history

data type: 320-bit Record (subindex access not supported)

access rights: ro

dynamic

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	288	32-bit UInteger			ro			History Index	Index current dataset in history, can be set in History Memory Access Menu
2	256	32-bit UInteger			ro			Operation seconds	Counter of operation seconds since delivery of dataset
3	224	32-bit UInteger			ro			History Concentration 4um	Concentration 4µm of dataset
4	192	32-bit UInteger			ro			History Concentration 6um	Concentration 6µm of dataset
5	160	32-bit UInteger			ro			History Concentration 14um	Concentration 14µm of dataset
6	128	32-bit UInteger			ro			History Concentration 21um	Concentration 21µm of dataset
7	96	32-bit UInteger			ro			History Flow Index	Flow Index of dataset
8	64	32-bit UInteger			ro			History Measurement Time	Measurement Time of dataset
9	48	16-bit UInteger			ro			History ERC0	Errorcodes of dataset Word0
10	32	16-bit UInteger			ro			History ERC1	Errorcodes of dataset Word1
11	16	16-bit UInteger			ro			History ERC2	Errorcodes of dataset Word2
12	0	16-bit UInteger			ro			History ERC3	Errorcodes of dataset Word3

Variable "Alarm Type" index=620 id=V_AlarmType

description: Setup Alarm Filter

data type: 16-bit UInteger

allowed values: 0 = Standard Mode, 1 = Filtered Mode

default value: 0

access rights: rw

Variable "Temperature Alarm" index=621 id=V_AlarmTemperatur

description: Setup Limit of Temperature Alarm in deg Celsius (0: alarm disabled)

data type: 8-bit UInteger

allowed values: 0..85 = Limits Temperatur Alarm

access rights: rw

dynamic

Variable "ISO Classes Alarm" index=622 id=V_AlarmSetup_ISO

description: Thresholds for ISO Classes Alarm

data type: 32-bit Record

access rights: rw

dynamic

subin-dex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	24	8-bit UInteger	0..28	0				ISO Class 4um	Limit ISO 4 µm Class
2	16	8-bit UInteger	0..28	0				ISO Class 6um	Limit ISO 6 µm Classx
3	8	8-bit UInteger	0..28	0				ISO Class 14um	Limit ISO 14 µm Class
4	0	8-bit UInteger	0..28	0				ISO Class 21um	Limit ISO 21 µm Class

Variable "SAE Classes Alarm" index=623 id=V_AlarmSetup_SAE

description: Threshold for SAE Classes Alarm (note the offset)

data type: 32-bit Record

access rights: rw

dynamic

subin-dex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	24	8-bit UInteger	0..14	0				SAE Class 4µm	Limit SAE 4 µm Class
2	16	8-bit UInteger	0..14	0				SAE Class 6um	Limit SAE 6 µm Class
3	8	8-bit UInteger	0..14	0				SAE Class 14um	Limit SAE 14 µm Class
4	0	8-bit UInteger	0..14	0				SAE Class 21um	Limit SAE 21 µm Class

Variable "NAS Class Alarm" index=624 id=V_AlarmSetup_NAS

description: Threshold NAS Class Alarm (note the offset)

data type: 8-bit UInteger

allowed values: 0..13

default value: 0

access rights: rw

dynamic

Variable "GOST Class Alarm" index=625 id=V_AlarmSetup_GOST

description: Threshold for GOST Class Alarm (note the offset)

data type: 8-bit UInteger

allowed values: 0..18

default value: 0

access rights: rw

dynamic

Variable "StackRevisionIdentifier" index=767 id=V_StackRevisionIdentifier

description: Identifier of IO-Link Stack

data type: 56-bit Record

access rights: ro

sub-index	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	48	8-bit UInteger		43	ro			Stack Revision	Revision of the basic stack
2	40	8-bit UInteger		22	ro			µC ID	Identification of microcontroller
3	32	8-bit UInteger		31	ro			PHY ID	Identifier of the PHY
4	24	8-bit UInteger		0	ro			PHAL Revision	Revision of PHAL
5	16	8-bit UInteger		0	ro			PHYL Revision	Revision of PHYL
6	8	8-bit UInteger		0	ro			BLOB Revision	Revision of BLOB transfer
7	0	8-bit UInteger		0	ro			FWUP Revision	Revision of firmware update

Variable "Test Parameter 16382" index=16382 id=V_test_param_16382

description: 16-bit index R/W

data type: 32-bit UInteger

default value: 0

access rights: rw

excluded from data storage

ERROR TYPES

Code	Type	Name	Description
128 (0x80)	0 (0x00)	Device application error - no details	Service was denied by the technology-specific application. No detailed root-cause information is available.
128 (0x80)	17 (0x11)	Index not available	Read or write access attempt to a non-existing index.
128 (0x80)	18 (0x12)	Subindex not available	Read or write access attempt to a non-existing subindex of an existing index.
128 (0x80)	32 (0x20)	Service temporarily not available	Parameter not accessible due to the current state of the technology-specific application.
128 (0x80)	33 (0x21)	Service temporarily unavailable - local control	Parameter not accessible. The device is currently in an on-going, locally controlled operation.
128 (0x80)	34 (0x22)	Service temporarily unavailable - device control	Parameter not accessible. The technology-specific application is currently in a remotely triggered operation.
128 (0x80)	35 (0x23)	Access denied	Write access to a read-only parameter or read access to write-only parameter.
128 (0x80)	48 (0x30)	Parameter value out of range	Written parameter value is outside of the permitted value range.
128 (0x80)	51 (0x33)	Parameter length overrun	Written parameter is longer than specified.
128 (0x80)	52 (0x34)	Parameter length underrun	Written parameter is shorter than specified.
128 (0x80)	53 (0x35)	Function unavailable	Written command is not supported by the technology-specific application.
128 (0x80)	54 (0x36)	Function temporarily unavailable	Written command is unavailable due to the current state of the technology-specific application.
128 (0x80)	64 (0x40)	Invalid parameter set	Written single parameter value collides with other existing parameter settings.
128 (0x80)	65 (0x41)	Inconsistent parameter set	Parameter set inconsistencies at the end of block parameter transfer. Device plausibility check failed.
128 (0x80)	130 (0x82)	Application not ready	Read or write access denied. The technology-specific application is temporarily unavailable.

EVENTS

Code	Type	Name	Description
6144 (0x1800)	Notification	Measurement active	Measurement is active
6145 (0x1801)	Warning	Calibration needed	Calibration is needed
6146 (0x1802)	Notification	Clear History Memory	Event appears by setting index 2 to value 204, Event disappears when History Memory is cleared
6147 (0x1803)	Notification	Standard changed	Event appears when Process-Data Standard is changed
20480 (0x5000)	Error	Device hardware fault	Exchange device
35856 (0x8c10)	Warning	Process variable range overrun	Process data uncertain
35872 (0x8c20)	Error	Measurement range exceeded	Check application
35888 (0x8c30)	Warning	Process variable range underrun	Process data uncertain
36350 (0x8dfe)	Warning	Test Event 1. Device Status = 1 (Maintenance required)	Event appears by setting index 2 to value 240, Event disappears by setting index 2 to value 241
36351 (0x8dff)	Warning	Test Event 2. Device Status = 1 (Maintenance required)	Event appears by setting index 2 to value 242, Event disappears by setting index 2 to value 243