



## PLC Integration TL305\_5000

**IO - Link service data function block + process data parser function for Siemens S7-1200 / S7 - 1500 (TIA - Portal V15.1 or higher) PLC systems in combination with a PROFIBUS / PROFINET IO - Link Master**

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# 1 Legal information

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## **2 About this document**

Please read this chapter carefully before working with this documentation and the Leuze IO-Link device.

### **2.1 Purpose of use**

These instructions have been designed for the technical personnel for the use of the IO-Link PLC blocks.

These instructions are intended to provide support during the commissioning of a Leuze IO-Link sensor using standard software from Siemens. The described module is part of this standard software.

### **2.2 Target group**

These instructions are addressed to programming engineers and the operators of machines and systems, which are operated by one or several IO-Link devices. They also address people, who connect the IO-Link device via an IO-Link-Master-Gateway to a PLC-Control for data exchange.

## 3 General use of function block

### 3.1 Short description

The function block "FB\_Leuze\_TL305\_5000" simplifies the usage of Leuze IO-Link devices on Siemens S7-1200/S7-1500 (TIA-Portal V15.1 or higher) PLC controls. This FB supports IO-Link Masters which can be connected via PROFIBUS / PROFINET to the PLC system.

The function block is device type-specific and thus only suitable for the appropriate Leuze IO-Link devices. The FB interprets the call-up of the acyclic service data between the PLC and the IO-Link device.

The IO-Link function block can only be used in combination with the listed helper functions / libraries.

### 3.2 Calling and designation

The module can be called as a single-instance.



Fig. 3.1: Example of module call with single instance

### 3.3 Configuration

Tab. 3.1: Parameter IN

Parameter	Data type	Description
Execute	Bool	Positive trigger: Start data transfer
RW	Bool	Read or write the selected IO-Link parameter. FALSE: Read parameter TRUE: Write Parameter
Port	Int	Number of the master port the IO-Link device is connected, starting with 1.
HwID	HW_IO	Hardware IO-Address of the IO-Link master
Cap	DInt	Client access point of the IO-Link function (IO-LinkMaster specific). Siemens: 227 Weidmüller: 227 Other manufacturers: 255
TimeOut	Time	Time, after a Timeout-Error is triggered.

Tab. 3.2: Parameter INOUT

Parameter	Data type	Description
DeviceData	Leuze_type_TL305_5000	Sensor data

See structure description of Leuze\_type\_TL305\_5000 in chapter 7.

Tab. 3.3: Parameter OUT

Parameter	Data type	Description
Done	Bool	Indicates whether data is valid.
Busy	Bool	Request in process. FALSE: Request is terminated TRUE: Request is being processed
Error	Bool	Error flag FALSE: No error TRUE: Error detected
ErrorCode	Leuze_type_lolError	Status of the function block
Diagnostics	LIOLink_typeDiagnostics	Detailed diagnostic information of the FB. See description of Siemens Library for IO-Link (LIOLink).

See structure description of Leuze\_type\_lolError in chapter 6.

## 3.4 Method of function

The function block uses the data structure "FB\_Leuze\_TL305\_5000". The PLC data structure contains the values of all IO-Link variables. Before you can use it, the structure must be instantiated by a data block. Each IO-Link FB parameter has a data point representing it in this data structure. This data point will be actualized every time a read request was executed successfully.

The desired parameters can be selected via the input variables. Depending on the device definition, IO-Link parameters are read or writable. The input variable must be "RW" = FALSE to read parameter. The value that should be written can be defined in the data structure, as soon as the input parameter "RW" = TRUE. You start each transfer by calling up the "FB\_Leuze\_TL305\_5000" with a positive trigger at the "Execute" input. As long as there is no valid answer the output "Busy" is TRUE. In the case that the chosen timeout period has elapsed a timeout error will be generated and the thread will be terminated. The "Done" = TRUE output shows that the transmission was successful. The outputs retain there states as long as there is no new positive trigger at the "Execute" input again.

The function block allows you to read or write multiple IO-Link parameters sequentially (multiselection). Please note that it may happen, that a single parameter can not be written. The function block aborts at this point and it is possible, that the IO-Link device contains an inconsistent set of parameters.

## 3.5 Behavior when error occurs

An error bit (Error) is set and an error code (Leuze\_type\_lolError) generated, if there is a spurious input value or an incorrect input connection of the FB. In this case, no further processing is carried out, until the input has been corrected.

## 4 Integration into the PLC project

The function block "FB\_Leuze\_ TL305\_5000" is a part of the TIA-Portal library. To get all relevant blocks into your PLC project, please open the library as a "global" library. Afterwards, the library elements can be copied into the currently opened project.

### Integration step by step:

- Downloading the library
- Open the library in the "global" library tab
- Including the blocks of the Leuze library into your project (code-blocks and data type)
- Compiling the PLC project

NOTICE	
	If several devices connect to the IO-Link Master, you can only exchange acyclic data (service data) with one device at the same time. Due this restriction, the service data communication blocks must to be blocked against each other.



## 5 Process data parser function

The function -- Process Data Function not generated for this device -- simplifies the interpretation of composed IO-Link process data. This data is provided as a data structure on the PLC side. Some sensors supports different process data output. User must select mode of PD according to the sensors settings. Each sensor connected to Leuze IO-Link master has its own hardware ID. See Fig. 5.2.

The function is device type-specific and thus only suitable for the appropriated Leuze IO-Link devices.

### 5.1 Calling and designation



Fig. 5.1: Example of process data parsing function call

### 5.2 Configuration

Tab. 5.1: Parameters

Parameter name	Declaration	Data type	Description
HwID	INPUT	HW_IO	Hardware IO-Address of the IO-Link master (see HW-Configuration). For masters that do not use the Siemens PCT-Tool please use the HW IOAddress of the configured Master port.
RelByteOffset	INPUT	UINT	Relative start address of the IO-Link device on the IO-Link master port (see PCT-Tool -> Addresses -> Inputs Start). If the process date is mapped into a specified logical IO-Address, the relative byte offset = 0.
PDMode	INPUT	INT	Mode of the PD. User must select mode of PD according to the sensors settings. The PD Mode parameter only appears for some sensors.
Error	OUTPUT	BOOL	Error flag FALSE: No error TRUE: Error detected
ErrorCode	OUTPUT	WORD	Error code details see in the Siemens help system ("DPRD_DAT").
RET_VAL	OUTPUT	-- Process Data UDT not generated for this device --	Reference to the instance of the data structure -- Process Data UDT not generated for this device --. The structure includes the disaggregated values of the process data.

See structure description of -- Process Data UDT not generated for this device -- in chapter 7.



Fig. 5.2: Hardware ID for sensors connected to Leuze MD798 IO-Link master

## 6 Error description

The parameter "ErrorCode" can be interpreted using the PLC data type Leuze\_type\_IolError. This data type contains the following error information:

Tab. 6.1: Leuze\_type\_IolError description

Parameter name	Data type	Description
ErrorCode.status	Word	16#0000–16#7FFF: Status of the FB, 16#8000–16#FFFF: Error codes
ErrorCode.iolMError	Word	IO-Link Master error (see IO-Link specification)
ErrorCode.iolError	Word	IO-Link error. Contains the IOL_Error_Code the IOL_Add_Error_Code (see IO-Link specification) and the device specific error codes
ErrorCode.isduIndex	Int	IO-Link Index (ISDU) to which the error code refers

Tab. 6.2: Error description for status

Error code (status)	Error description
0x0000	Operation completed, no warning and no further details
0x7000	No operation in progress (initial value)
0x7001	First call after input of a new command (rising edge on "execute")
0x7002	Subsequent cal
0x8001	Time out error occurred
0x8002	No parameter selected
0x8201	Unsupported port
0x8202	Unsupported index
0x8203	Unsupported subindex
0x8205	The length at the "writeLen" parameter does not match the data record that will be written
0x8401	The IO-Link master has reported an error code, see "diagnostics"
0x8402	Received data record does not match operation
0x8403	Operation could not be completed in the specified time
0x8600	Internal state machine has reached an undefined state
0x8601	System function WRREC reports an error, see "diagnostics"
0x8602	System function RDREC reports an error, see "diagnostics"

Tab. 6.3: Error description for ioIMError

Error code (ioIMError)	Error description
0x0000	No error
0x0001 ... 0x06FF	Reserved / Master specific
0x7000	Unexpected Write request instead of read request / Invalid response PDU
0x7001	Decode error
0x7002	Port occupied by another task
0x7003 ... 0x7FFF	Reserved / Master specific
0x8000	Timeout when IOL-Devices or IOL-Master port are busy
0x8001	IO-Link index > 32767
0x8002	Port address beyond defined maximum
0x8003	Port function not supported
0x8004	Reserved / Master specific
0x8005	Invalid length of the data that should be written (>232 / <1)
0x8006	Reserved / Master specific
0x8007	IO-Link subindex > 255
0x8008 ... 0x8051	Reserved / Master specific
0x8052	Error during acyclic data access (FB RDREC error)
0x8053	Error during acyclic data access (FB WRREC error)
0x8054 ... 0x8FFFF	Reserved / Master specific

For additional information see the technical specification "IO-Link Integration Part 1" ([www.profibus.com](http://www.profibus.com)).

Tab. 6.4: Error description for ioLError

Error code (ioLError)	Error description
0x0000	No error
0x1000	Master communication error
0x1100	ISDU time out / Device event error
0x5200	Device checksum error
0x5600	Device checksum error

Error code (ioLError)	Error description
0x5700	Master ISDU illegal service
0x5800	Device error: Byte length does not fit to the chosen parameter
0x8000	The requested service has been refused by the device application
0x8011	Read write access to a not existing Index
0x8012	Read write access to a not existing sub index
0x8020	Parameter is not accessible for a read or write service due to the current state in the device
0x8021	Parameter is not accessible for a read or write service due to an ongoing local operation at the device
0x8022	Parameter is not accessible for a read or write service due to an remote triggered state of the device application
0x8023	Write service tries to access a read-only parameter
0x8030	Write service to a parameter outside its permitted range of values
0x8031	Write service to a parameter above its specified value range
0x8032	Write service to a parameter below its specified value range
0x8033	Write service to a parameter above its specified length
0x8034	Write service to a parameter below its predefined length
0x8035	Write service with a command value not supported by the device application
0x8036	Write service with a command value calling a device function not available due to the current state
0x8040	The value via single parameter transfer collide with other actual parameter settings
0x8041	Inconsistent parameter set (at least an ISDU cannot be written)
0x8082	The read or write service is refused due to a temporarily unavailable application
0x8100	Unspecified
0x8101 ... 0x81FF	Device specific (see device description)

For additional information see the specification "IO-Link Communication" ([www.IO-Link.com](http://www.IO-Link.com)).

Tab. 6.5: Description of device specific errors.

Error code	Error name	Description
0x800	Device application error - no details	Service was denied by the technology-specific application. No detailed root-cause information is available.
0x8011	Index not available	Read or write access attempt to a non-existing index.
0x8012	Subindex not available	Read or write access attempt to a non-existing subindex of an existing index.

Error code	Error name	Description
0x8020	Service temporarily not available	Parameter not accessible due to the current state of the technology-specific application.
0x8023	Access denied	Write access to a read-only parameter or read access to write-only parameter.
0x8030	Parameter value out of range	Written parameter value is outside of the permitted value range.
0x8031	Parameter value above limit	Written parameter value is above its specified value range.
0x8032	Parameter value below limit	Written parameter value is below its specified value range.
0x8033	Parameter length overrun	Written parameter is longer than specified.
0x8034	Parameter length underrun	Written parameter is shorter than specified.
0x8035	Function unavailable	Written command is not supported by the technology-specific application.
0x8036	Function temporarily unavailable	Written command is unavailable due to the current state of the technology-specific application.
0x8040	Invalid parameter set	Written single parameter value collides with other existing parameter settings.
0x8041	Inconsistent parameter set	Parameter set inconsistencies at the end of block parameter transfer. Device plausibility check failed.
0x8082	Application not ready	Read or write access denied. The technology-specific application is temporarily unavailable.

## 7 Data structures

Tab. 7.1: Leuze\_type\_ TL305\_5000

Parameter name	Data type	Description
DeviceData.Selection.Commands.CmdRestoreFactorySettings	Bool	[WRITE_ONLY] Restore Factory Settings
DeviceData.Selection.Commands.CmdLocatorStart	Bool	[WRITE_ONLY] Locator Start
DeviceData.Selection.Commands.CmdLocatorStop	Bool	[WRITE_ONLY] Locator Stop
DeviceData.Selection.Commands.CmdFunctionTest	Bool	[WRITE_ONLY] Function Test
DeviceData.Selection.Commands.CmdFunctionTestStop	Bool	[WRITE_ONLY] Function Test stop
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor0	Bool	[WRITE_ONLY] Reset to Factory Settings Color 0
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor1	Bool	[WRITE_ONLY] Reset to Factory Settings Color 1
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor2	Bool	[WRITE_ONLY] Reset to Factory Settings Color 2
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor3	Bool	[WRITE_ONLY] Reset to Factory Settings Color 3
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor4	Bool	[WRITE_ONLY] Reset to Factory Settings Color 4
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor5	Bool	[WRITE_ONLY] Reset to Factory Settings Color 5
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor6	Bool	[WRITE_ONLY] Reset to Factory Settings Color 6
DeviceData.Selection.Commands.CmdResetToFactorySettingsColor7	Bool	[WRITE_ONLY] Reset to Factory Settings Color 7
DeviceData.Selection.Commands.CmdIoLink11SystemTestCommand240Event8DfeAppears	Bool	[WRITE_ONLY] IO-Link 1.1 system test command 240, Event 8DFE appears
DeviceData.Selection.Commands.CmdIoLink11SystemTestCommand241Event8DfeDisappears	Bool	[WRITE_ONLY] IO-Link 1.1 system test command 241, Event 8DFE disappears
DeviceData.Selection.Commands.CmdIoLink11SystemTestCommand242Event8DffAppears	Bool	[WRITE_ONLY] IO-Link 1.1 system test command 242, Event 8DFF appears
DeviceData.Selection.Commands.CmdIoLink11SystemTestCommand243Event8DffDisappears	Bool	[WRITE_ONLY] IO-Link 1.1 system test command 243, Event 8DFF disappears
DeviceData.Selection.DirectParametersPage1.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.DirectParametersPage1.Reserved_1	Bool	[READ_ONLY] ; Suffix "_1" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.DirectParametersPage1.MasterCycleTime	Bool	[READ_ONLY] Communication: Current communication cycle duration used by the master. This value defines the process data cycle.

Parameter name	Data type	Description
DeviceData.Selection.DirectParametersPage1.MinCycleTime	Bool	[READ_ONLY] Communication: Minimum communication cycle duration supported by the device. This value defines the lowest possible process data cycle.
DeviceData.Selection.DirectParametersPage1.MSequenceCapability	Bool	[READ_ONLY] Communication: Information on the structure and the supported features of the communication messages.
DeviceData.Selection.DirectParametersPage1.IoLinkRevisionId	Bool	[READ_ONLY] Communication: Identifier for the currently used communication protocol revision.
DeviceData.Selection.DirectParametersPage1.ProcessDataInputLength	Bool	[READ_ONLY] Communication: Information on width and features of the process input data (Process Data from Device to Master).
DeviceData.Selection.DirectParametersPage1.ProcessDataOutputLength	Bool	[READ_ONLY] Communication: Information on width of the process output data (Process Data from Master to Device).
DeviceData.Selection.DirectParametersPage1.VendorId1	Bool	[READ_ONLY] 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.
DeviceData.Selection.DirectParametersPage1.VendorId2	Bool	[READ_ONLY] 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.
DeviceData.Selection.DirectParametersPage1.DeviceId1	Bool	[READ_ONLY] 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.



Parameter name	Data type	Description
DeviceData.Selection.DirectParametersPage1.DeviceId2	Bool	[READ_ONLY] 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.
DeviceData.Selection.DirectParametersPage1.DeviceId3	Bool	[READ_ONLY] 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.
DeviceData.Selection.DirectParametersPage1.Reserved_13	Bool	[READ_ONLY] ; Suffix "_13" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.DirectParametersPage1.Reserved_14	Bool	[READ_ONLY] ; Suffix "_14" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.DirectParametersPage1.Reserved_15	Bool	[READ_ONLY] ; Suffix "_15" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.DirectParametersPage1.SystemCommand	Bool	[WRITE_ONLY] Application: Command interface for devices without ISDU support. Validity and execution of commands are not confirmed.
DeviceData.Selection.DirectParametersPage2.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter1	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter2	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter3	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter4	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter5	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter6	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter7	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter8	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter9	Bool	[READ_WRITE]

Parameter name	Data type	Description
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter10	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter11	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter12	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter13	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter14	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter15	Bool	[READ_WRITE]
DeviceData.Selection.DirectParametersPage2.DeviceSpecificParameter16	Bool	[READ_WRITE]
DeviceData.Selection.SystemCommand	Bool	[WRITE_ONLY] Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.
DeviceData.Selection.DeviceAccessLocks.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.VendorName	Bool	[READ_ONLY] The vendor name that is assigned to a Vendor ID.
DeviceData.Selection.VendorText	Bool	[READ_ONLY] Additional information about the vendor.
DeviceData.Selection.ProductName	Bool	[READ_ONLY] Complete product name.
DeviceData.Selection.ProductId	Bool	[READ_ONLY] Vendor-specific product or type identification (e.g., item number or model number).
DeviceData.Selection.ProductText	Bool	[READ_ONLY] Additional product information for the device.
DeviceData.Selection.SerialNumber	Bool	[READ_ONLY] Unique, vendor-specific identifier of the individual device.
DeviceData.Selection.HardwareRevision	Bool	[READ_ONLY] Unique, vendor-specific identifier of the hardware revision of the individual device.
DeviceData.Selection.FirmwareRevision	Bool	[READ_ONLY] Unique, vendor-specific identifier of the firmware revision of the individual device.
DeviceData.Selection.ApplicationSpecificTag	Bool	[READ_WRITE] Possibility to mark a device with user- or application-specific information.
DeviceData.Selection.FunctionTag	Bool	[READ_WRITE] User defined function tag
DeviceData.Selection.LocationTag	Bool	[READ_WRITE] User defined location tag

Parameter name	Data type	Description
DeviceData.Selection.ErrorCount	Bool	[READ_ONLY] Number of errors that occurred in the technology-specific application since power on or restart.
DeviceData.Selection.DeviceStatus	Bool	[READ_ONLY] Indicator for the current device condition and diagnosis state.
DeviceData.Selection.DetailedDeviceStatus.All	Bool	[READ_ONLY] all parameters of complex data type
DeviceData.Selection.Lot	Bool	[READ_ONLY] Production Lot
DeviceData.Selection.Temperature	Bool	[READ_ONLY] Device Temperature
DeviceData.Selection.OperatingHours	Bool	[READ_ONLY] Duration of Duty
DeviceData.Selection.NumberOfSwitchOn	Bool	[READ_ONLY] Number of Switch On
DeviceData.Selection.MinimalTemperature	Bool	[READ_ONLY] Minimal Temperature in Use
DeviceData.Selection.MaximalTemperature	Bool	[READ_ONLY] Maximal Temperature in Use
DeviceData.Selection.ErrorIndicationIolCommunication	Bool	[READ_WRITE] Error Indication IOL-Communication
DeviceData.Selection.DeviceControl	Bool	[READ_WRITE] Device Control
DeviceData.Selection.SelectionPreSet	Bool	[READ_WRITE] Simulation of all eight selectable presets in external trigger mode parallel to an IO-Link connection
DeviceData.Selection.SelectionNumberOfSegments	Bool	[READ_WRITE] Selection of the number of segments in segment mode (PD)
DeviceData.Selection.DirectionOfDisplay	Bool	[READ_WRITE] Direction Of Display
DeviceData.Selection.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.DynamicModeActiveSegment	Bool	[READ_WRITE] Dynamic mode active segment (foreground color)
DeviceData.Selection.DynamicModeInactiveSegment	Bool	[READ_WRITE] Dynamic mode inactive segment (background color)
DeviceData.Selection.Name_620	Bool	[READ_WRITE] Designation freely selectable; Suffix "_620" (parameter index or subindex) added because of duplicate parameter names.

Parameter name	Data type	Description
DeviceData.Selection.Name_621	Bool	[READ_WRITE] Designation freely selectable; Suffix "_621" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.Name_622	Bool	[READ_WRITE] Designation freely selectable; Suffix "_622" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.Name_623	Bool	[READ_WRITE] Designation freely selectable; Suffix "_623" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.Name_624	Bool	[READ_WRITE] Designation freely selectable; Suffix "_624" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.Name_625	Bool	[READ_WRITE] Designation freely selectable; Suffix "_625" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.Name_626	Bool	[READ_WRITE] Designation freely selectable; Suffix "_626" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.Name_627	Bool	[READ_WRITE] Designation freely selectable; Suffix "_627" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Selection.ColorProportion_650.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_650.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_650.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_650.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_651.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_651.Red	Bool	[READ_WRITE] Red Proportion

Parameter name	Data type	Description
DeviceData.Selection.ColorProportion_651.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_651.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_652.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_652.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_652.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_652.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_653.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_653.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_653.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_653.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_654.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_654.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_654.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_654.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_655.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_655.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_655.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_655.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_656.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_656.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_656.Green	Bool	[READ_WRITE] Green Proportion
DeviceData.Selection.ColorProportion_656.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.ColorProportion_657.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.ColorProportion_657.Red	Bool	[READ_WRITE] Red Proportion
DeviceData.Selection.ColorProportion_657.Green	Bool	[READ_WRITE] Green Proportion

Parameter name	Data type	Description
DeviceData.Selection.ColorProportion_657.Blue	Bool	[READ_WRITE] Blue Proportion
DeviceData.Selection.Seg1_681.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_681.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_681.DynamicMode	Bool	[READ_WRITE] Dynamic-Mode
DeviceData.Selection.Seg2_682.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_682.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_682.DynamicMode	Bool	[READ_WRITE] Dynamic-Mode
DeviceData.Selection.Seg3_683.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_683.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_683.DynamicMode	Bool	[READ_WRITE] Dynamic-Mode
DeviceData.Selection.Seg1_701.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_701.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_701.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_701.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_702.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_702.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_702.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_702.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_703.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_703.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_703.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_703.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_721.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_721.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_721.Intensity	Bool	[READ_WRITE] Intensity

Parameter name	Data type	Description
DeviceData.Selection.Seg1_721.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_722.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_722.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_722.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_722.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_723.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_723.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_723.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_723.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_741.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_741.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_741.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_741.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_742.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_742.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_742.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_742.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_743.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_743.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_743.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_743.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_761.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_761.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_761.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_761.Mode	Bool	[READ_WRITE] Mode

Parameter name	Data type	Description
DeviceData.Selection.Seg2_762.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_762.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_762.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_762.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_763.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_763.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_763.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_763.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_781.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_781.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_781.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_781.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_782.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_782.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_782.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_782.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_783.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_783.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_783.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_783.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_801.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_801.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_801.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_801.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_802.All	Bool	[READ_WRITE] all parameters of complex data type



Parameter name	Data type	Description
DeviceData.Selection.Seg2_802.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_802.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_802.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_803.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_803.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_803.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_803.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_821.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_821.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_821.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_821.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_822.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_822.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg2_822.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_822.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_823.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_823.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_823.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_823.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg1_841.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg1_841.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg1_841.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg1_841.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg2_842.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg2_842.Color	Bool	[READ_WRITE] Color

Parameter name	Data type	Description
DeviceData.Selection.Seg2_842.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg2_842.Mode	Bool	[READ_WRITE] Mode
DeviceData.Selection.Seg3_843.All	Bool	[READ_WRITE] all parameters of complex data type
DeviceData.Selection.Seg3_843.Color	Bool	[READ_WRITE] Color
DeviceData.Selection.Seg3_843.Intensity	Bool	[READ_WRITE] Intensity
DeviceData.Selection.Seg3_843.Mode	Bool	[READ_WRITE] Mode
DeviceData.Data.Commands.CmdRestoreFactorySettings	UInt	[WRITE_ONLY] Restore Factory Settings
DeviceData.Data.Commands.CmdLocatorStart	UInt	[WRITE_ONLY] Locator Start
DeviceData.Data.Commands.CmdLocatorStop	UInt	[WRITE_ONLY] Locator Stop
DeviceData.Data.Commands.CmdFunctionTest	UInt	[WRITE_ONLY] Function Test
DeviceData.Data.Commands.CmdFunctionTestStop	UInt	[WRITE_ONLY] Function Test stop
DeviceData.Data.Commands.CmdResetToFactorySettingsColor0	UInt	[WRITE_ONLY] Reset to Factory Settings Color 0
DeviceData.Data.Commands.CmdResetToFactorySettingsColor1	UInt	[WRITE_ONLY] Reset to Factory Settings Color 1
DeviceData.Data.Commands.CmdResetToFactorySettingsColor2	UInt	[WRITE_ONLY] Reset to Factory Settings Color 2
DeviceData.Data.Commands.CmdResetToFactorySettingsColor3	UInt	[WRITE_ONLY] Reset to Factory Settings Color 3
DeviceData.Data.Commands.CmdResetToFactorySettingsColor4	UInt	[WRITE_ONLY] Reset to Factory Settings Color 4
DeviceData.Data.Commands.CmdResetToFactorySettingsColor5	UInt	[WRITE_ONLY] Reset to Factory Settings Color 5
DeviceData.Data.Commands.CmdResetToFactorySettingsColor6	UInt	[WRITE_ONLY] Reset to Factory Settings Color 6
DeviceData.Data.Commands.CmdResetToFactorySettingsColor7	UInt	[WRITE_ONLY] Reset to Factory Settings Color 7
DeviceData.Data.Commands.CmdIoLink11SystemTestCommand240Event8DfeAppears	UInt	[WRITE_ONLY] IO-Link 1.1 system test command 240, Event 8DFE appears
DeviceData.Data.Commands.CmdIoLink11SystemTestCommand241Event8DfeDisappears	UInt	[WRITE_ONLY] IO-Link 1.1 system test command 241, Event 8DFE disappears
DeviceData.Data.Commands.CmdIoLink11SystemTestCommand242Event8DffAppears	UInt	[WRITE_ONLY] IO-Link 1.1 system test command 242, Event 8DFF appears
DeviceData.Data.Commands.CmdIoLink11SystemTestCommand243Event8DffDisappears	UInt	[WRITE_ONLY] IO-Link 1.1 system test command 243, Event 8DFF disappears
DeviceData.Data.DirectParametersPage1.Reserved_1	UInt	[READ_ONLY] ; Suffix "_1" (parameter index or subindex) added because of duplicate parameter names.

Parameter name	Data type	Description
DeviceData.Data.DirectParametersPage1.MasterCycleTime	UInt	[READ_ONLY] Communication: Current communication cycle duration used by the master. This value defines the process data cycle.
DeviceData.Data.DirectParametersPage1.MinCycleTime	UInt	[READ_ONLY] Communication: Minimum communication cycle duration supported by the device. This value defines the lowest possible process data cycle.
DeviceData.Data.DirectParametersPage1.MSequenceCapability	UInt	[READ_ONLY] Communication: Information on the structure and the supported features of the communication messages.
DeviceData.Data.DirectParametersPage1.IoLinkRevisionId	UInt	[READ_ONLY] Communication: Identifier for the currently used communication protocol revision.
DeviceData.Data.DirectParametersPage1.ProcessDataInputLength	UInt	[READ_ONLY] Communication: Information on width and features of the process input data (Process Data from Device to Master).
DeviceData.Data.DirectParametersPage1.ProcessDataOutputLength	UInt	[READ_ONLY] Communication: Information on width of the process output data (Process Data from Master to Device).
DeviceData.Data.DirectParametersPage1.VendorId1	UInt	[READ_ONLY] 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.
DeviceData.Data.DirectParametersPage1.VendorId2	UInt	[READ_ONLY] 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.
DeviceData.Data.DirectParametersPage1.DeviceId1	UInt	[READ_ONLY] 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.

Parameter name	Data type	Description
DeviceData.Data.DirectParametersPage1.Deviceld2	UInt	[READ_ONLY] 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.
DeviceData.Data.DirectParametersPage1.Deviceld3	UInt	[READ_ONLY] 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.
DeviceData.Data.DirectParametersPage1.Reserved_13	UInt	[READ_ONLY] ; Suffix "_13" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.DirectParametersPage1.Reserved_14	UInt	[READ_ONLY] ; Suffix "_14" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.DirectParametersPage1.Reserved_15	UInt	[READ_ONLY] ; Suffix "_15" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.DirectParametersPage1.SystemCommand	UInt	[WRITE_ONLY] Application: Command interface for devices without ISDU support. Validity and execution of commands are not confirmed.
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter1	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter2	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter3	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter4	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter5	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter6	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter7	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter8	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter9	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter10	UInt	[READ_WRITE]

Parameter name	Data type	Description
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter11	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter12	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter13	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter14	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter15	UInt	[READ_WRITE]
DeviceData.Data.DirectParametersPage2.DeviceSpecificParameter16	UInt	[READ_WRITE]
DeviceData.Data.SystemCommand	UInt	[WRITE_ONLY] Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.
DeviceData.Data.DeviceAccessLocks.ParameterWriteAccess	Bool	[READ_WRITE] This lock prevents the write access to all read/write parameters of the device except for the parameter 'Device Access Locks'.
DeviceData.Data.DeviceAccessLocks.DataStorage	Bool	[READ_WRITE] This lock prevents the write access to the device parameters via the data storage mechanism.
DeviceData.Data.DeviceAccessLocks.LocalParameterization	Bool	[READ_WRITE] This lock prevents the device settings from being changed via local operating elements on the device.
DeviceData.Data.DeviceAccessLocks.LocalUserInterface	Bool	[READ_WRITE] This lock prevents the access to the device settings and display via a local user interface. The user interface is disabled.
DeviceData.Data.VendorName	String	[READ_ONLY] The vendor name that is assigned to a Vendor ID.
DeviceData.Data.VendorText	String	[READ_ONLY] Additional information about the vendor.
DeviceData.Data.ProductName	String	[READ_ONLY] Complete product name.
DeviceData.Data.ProductId	String	[READ_ONLY] Vendor-specific product or type identification (e.g., item number or model number).
DeviceData.Data.ProductText	String	[READ_ONLY] Additional product information for the device.
DeviceData.Data.SerialNumber	String	[READ_ONLY] Unique, vendor-specific identifier of the individual device.

Parameter name	Data type	Description
DeviceData.Data.HardwareRevision	String	[READ_ONLY] Unique, vendor-specific identifier of the hardware revision of the individual device.
DeviceData.Data.FirmwareRevision	String	[READ_ONLY] Unique, vendor-specific identifier of the firmware revision of the individual device.
DeviceData.Data.ApplicationSpecificTag	String	[READ_WRITE] Possibility to mark a device with user- or application-specific information.
DeviceData.Data.FunctionTag	String	[READ_WRITE] User defined function tag
DeviceData.Data.LocationTag	String	[READ_WRITE] User defined location tag
DeviceData.Data.ErrorCount	UInt	[READ_ONLY] Number of errors that occurred in the technology-specific application since power on or restart.
DeviceData.Data.DeviceStatus	UInt	[READ_ONLY] Indicator for the current device condition and diagnosis state.
DeviceData.Data.DetailedDeviceStatus.Item_1	String	[READ_ONLY] List of all currently pending events in the device.
DeviceData.Data.DetailedDeviceStatus.Item_2	String	[READ_ONLY] List of all currently pending events in the device.
DeviceData.Data.Lot	String	[READ_ONLY] Production Lot
DeviceData.Data.Temperature	Int	[READ_ONLY] Device Temperature
DeviceData.Data.OperatingHours	UInt	[READ_ONLY] Duration of Duty
DeviceData.Data.NumberOfSwitchOn	UInt	[READ_ONLY] Number of Switch On
DeviceData.Data.MinimalTemperature	Int	[READ_ONLY] Minimal Temperature in Use
DeviceData.Data.MaximalTemperature	Int	[READ_ONLY] Maximal Temperature in Use
DeviceData.Data.ErrorIndicationIolCommunication	UInt	[READ_WRITE] Error Indication IOL-Communication
DeviceData.Data.DeviceControl	UInt	[READ_WRITE] Device Control
DeviceData.Data.SelectionPreSet	UInt	[READ_WRITE] Simulation of all eight selectable presets in external trigger mode parallel to an IO-Link connection
DeviceData.Data.SelectionNumberOfSegments	UInt	[READ_WRITE] Selection of the number of segments in segment mode (PD)
DeviceData.Data.DirectionOfDisplay	UInt	[READ_WRITE] Direction Of Display

Parameter name	Data type	Description
DeviceData.Data.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.DynamicModeActiveSegment	UInt	[READ_WRITE] Dynamic mode active segment (foreground color)
DeviceData.Data.DynamicModeInactiveSegment	UInt	[READ_WRITE] Dynamic mode inactive segment (background color)
DeviceData.Data.Name_620	String	[READ_WRITE] Designation freely selectable; Suffix "_620" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_621	String	[READ_WRITE] Designation freely selectable; Suffix "_621" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_622	String	[READ_WRITE] Designation freely selectable; Suffix "_622" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_623	String	[READ_WRITE] Designation freely selectable; Suffix "_623" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_624	String	[READ_WRITE] Designation freely selectable; Suffix "_624" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_625	String	[READ_WRITE] Designation freely selectable; Suffix "_625" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_626	String	[READ_WRITE] Designation freely selectable; Suffix "_626" (parameter index or subindex) added because of duplicate parameter names.
DeviceData.Data.Name_627	String	[READ_WRITE] Designation freely selectable; Suffix "_627" (parameter index or subindex) added because of duplicate parameter names.

Parameter name	Data type	Description
DeviceData.Data.ColorProportion_650.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_650.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_650.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_651.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_651.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_651.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_652.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_652.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_652.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_653.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_653.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_653.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_654.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_654.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_654.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_655.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_655.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_655.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_656.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_656.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_656.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.ColorProportion_657.Red	UInt	[READ_WRITE] Red Proportion
DeviceData.Data.ColorProportion_657.Green	UInt	[READ_WRITE] Green Proportion
DeviceData.Data.ColorProportion_657.Blue	UInt	[READ_WRITE] Blue Proportion
DeviceData.Data.Seg1_681.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_681.DynamicMode	UInt	[READ_WRITE] Dynamic-Mode
DeviceData.Data.Seg2_682.Intensity	UInt	[READ_WRITE] Intensity



Parameter name	Data type	Description
DeviceData.Data.Seg2_682.DynamicMode	UInt	[READ_WRITE] Dynamic-Mode
DeviceData.Data.Seg3_683.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_683.DynamicMode	UInt	[READ_WRITE] Dynamic-Mode
DeviceData.Data.Seg1_701.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_701.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_701.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_702.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_702.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_702.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg3_703.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_703.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_703.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_721.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_721.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_721.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_722.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_722.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_722.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg3_723.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_723.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_723.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_741.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_741.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_741.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_742.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_742.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_742.Mode	UInt	[READ_WRITE] Mode

Parameter name	Data type	Description
DeviceData.Data.Seg3_743.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_743.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_743.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_761.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_761.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_761.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_762.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_762.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_762.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg3_763.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_763.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_763.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_781.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_781.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_781.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_782.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_782.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_782.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg3_783.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_783.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_783.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_801.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_801.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_801.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_802.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_802.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_802.Mode	UInt	[READ_WRITE] Mode

Parameter name	Data type	Description
DeviceData.Data.Seg3_803.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_803.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_803.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_821.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_821.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_821.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_822.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_822.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_822.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg3_823.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_823.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_823.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg1_841.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg1_841.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg1_841.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg2_842.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg2_842.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg2_842.Mode	UInt	[READ_WRITE] Mode
DeviceData.Data.Seg3_843.Color	UInt	[READ_WRITE] Color
DeviceData.Data.Seg3_843.Intensity	UInt	[READ_WRITE] Intensity
DeviceData.Data.Seg3_843.Mode	UInt	[READ_WRITE] Mode

Tab. 7.2: -- Process Data UDT not generated for this device --

Parameter name	Data type	Description
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## 8 Parameter descriptions

Tab. 8.1: IODD parameter descriptions

(AR - Access Rights, R - Read only, W - Write only, RW - Read and Write, NS - Not specified)

Parameter	Index	Subindex	Data type	Default	AR	Description
Commands			RecordT		W	Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.
Restore Factory Settings			UIntegerT	130	W	Restore Factory Settings
Locator Start			UIntegerT	126	W	Locator Start
Locator Stop			UIntegerT	127	W	Locator Stop
Function Test			UIntegerT	161	W	Function Test
Function Test stop			UIntegerT	162	W	Function Test stop
Reset to Factory Settings Color 0			UIntegerT	200	W	Reset to Factory Settings Color 0
Reset to Factory Settings Color 1			UIntegerT	201	W	Reset to Factory Settings Color 1
Reset to Factory Settings Color 2			UIntegerT	202	W	Reset to Factory Settings Color 2
Reset to Factory Settings Color 3			UIntegerT	203	W	Reset to Factory Settings Color 3
Reset to Factory Settings Color 4			UIntegerT	204	W	Reset to Factory Settings Color 4
Reset to Factory Settings Color 5			UIntegerT	205	W	Reset to Factory Settings Color 5
Reset to Factory Settings Color 6			UIntegerT	206	W	Reset to Factory Settings Color 6
Reset to Factory Settings Color 7			UIntegerT	207	W	Reset to Factory Settings Color 7
IO-Link 1.1 system test command 240, Event 8DFE appears			UIntegerT	240	W	IO-Link 1.1 system test command 240, Event 8DFE appears
IO-Link 1.1 system test command 241, Event 8DFE disappears			UIntegerT	241	W	IO-Link 1.1 system test command 241, Event 8DFE disappears
IO-Link 1.1 system test command 242, Event 8DFF appears			UIntegerT	242	W	IO-Link 1.1 system test command 242, Event 8DFF appears
IO-Link 1.1 system test command 243, Event 8DFF disappears			UIntegerT	243	W	IO-Link 1.1 system test command 243, Event 8DFF disappears
Direct Parameters - Page 1	0	0	RecordT		RW	Comprises the required parameters defining the communication characteristics and identifiers for device validation.
Reserved	0	1	UIntegerT		R	
Master Cycle Time	0	2	UIntegerT		R	Communication: Current communication cycle duration used by the master. This value defines the process data cycle.

Parameter	Index	Subindex	Data type	Default	AR	Description
Min Cycle Time	0	3	UIntegerT		R	Communication: Minimum communication cycle duration supported by the device. This value defines the lowest possible process data cycle.
M-Sequence Capability	0	4	UIntegerT		R	Communication: Information on the structure and the supported features of the communication messages.
IO-Link Revision ID	0	5	UIntegerT	17	R	Communication: Identifier for the currently used communication protocol revision.
Process Data Input Length	0	6	UIntegerT		R	Communication: Information on width and features of the process input data (Process Data from Device to Master).
Process Data Output Length	0	7	UIntegerT		R	Communication: Information on width of the process output data (Process Data from Master to Device).
Vendor ID 1	0	8	UIntegerT		R	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.
Vendor ID 2	0	9	UIntegerT		R	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.
Device ID 1	0	10	UIntegerT		R	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.
Device ID 2	0	11	UIntegerT		R	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.
Device ID 3	0	12	UIntegerT		R	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.
Reserved	0	13	UIntegerT		R	
Reserved	0	14	UIntegerT		R	
Reserved	0	15	UIntegerT		R	
System Command	0	16	UIntegerT		W	Application: Command interface for devices without ISDU support. Validity and execution of commands are not confirmed.  (0 ... 63): Reserved 128: Device Reset 129: Application Reset 130: Restore Factory Settings 131: Back-to-box (132 ... 159): Reserved
Direct Parameters - Page 2	1	0	RecordT		RW	A set of parameters for devices without ISDU support.

Parameter	Index	Subindex	Data type	Default	AR	Description
Device-specific Parameter 1	1	1	UIntegerT		RW	
Device-specific Parameter 2	1	2	UIntegerT		RW	
Device-specific Parameter 3	1	3	UIntegerT		RW	
Device-specific Parameter 4	1	4	UIntegerT		RW	
Device-specific Parameter 5	1	5	UIntegerT		RW	
Device-specific Parameter 6	1	6	UIntegerT		RW	
Device-specific Parameter 7	1	7	UIntegerT		RW	
Device-specific Parameter 8	1	8	UIntegerT		RW	
Device-specific Parameter 9	1	9	UIntegerT		RW	
Device-specific Parameter 10	1	10	UIntegerT		RW	
Device-specific Parameter 11	1	11	UIntegerT		RW	
Device-specific Parameter 12	1	12	UIntegerT		RW	
Device-specific Parameter 13	1	13	UIntegerT		RW	
Device-specific Parameter 14	1	14	UIntegerT		RW	
Device-specific Parameter 15	1	15	UIntegerT		RW	
Device-specific Parameter 16	1	16	UIntegerT		RW	

Parameter	Index	Subindex	Data type	Default	AR	Description
System Command	2	0	UIntegerT		W	<p>Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.</p> <p>130: Restore Factory Settings            (0 ... 63): Reserved            (132 ... 159): Reserved            126: Locator Start            127: Locator Stop            161: Function Test            162: Function Test stop            200: Reset to Factory Settings Color 0            201: Reset to Factory Settings Color 1            202: Reset to Factory Settings Color 2            203: Reset to Factory Settings Color 3            204: Reset to Factory Settings Color 4            205: Reset to Factory Settings Color 5            206: Reset to Factory Settings Color 6            207: Reset to Factory Settings Color 7            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</p>
Device Access Locks	12	0	RecordT		RW	<p>The access to the device parameters can be restricted by setting appropriate flags within this parameter.</p>
Parameter Write Access	12	1	BooleanT		RW	<p>This lock prevents the write access to all read/write parameters of the device except for the parameter 'Device Access Locks'.</p> <p>True: Locked            False: Unlocked</p>
Data Storage	12	2	BooleanT	0	RW	<p>This lock prevents the write access to the device parameters via the data storage mechanism.</p> <p>True: Locked            False: Unlocked</p>
Local Parameterization	12	3	BooleanT		RW	<p>This lock prevents the device settings from being changed via local operating elements on the device.</p> <p>True: Locked            False: Unlocked</p>
Local User Interface	12	4	BooleanT		RW	<p>This lock prevents the access to the device settings and display via a local user interface. The user interface is disabled.</p> <p>True: Locked            False: Unlocked</p>
Vendor Name	16	0	StringT	Leuze electronic GmbH + Co. KG	R	The vendor name that is assigned to a Vendor ID.
Vendor Text	17	0	StringT	The Sensor People	R	Additional information about the vendor.

Parameter	Index	Subindex	Data type	Default	AR	Description
Product Name	18	0	StringT		R	Complete product name.
Product ID	19	0	StringT		R	Vendor-specific product or type identification (e.g., item number or model number).
Product Text	20	0	StringT		R	Additional product information for the device.
Serial Number	21	0	StringT		R	Unique, vendor-specific identifier of the individual device.
Hardware Revision	22	0	StringT		R	Unique, vendor-specific identifier of the hardware revision of the individual device.
Firmware Revision	23	0	StringT		R	Unique, vendor-specific identifier of the firmware revision of the individual device.
Application-specific Tag	24	0	StringT		RW	Possibility to mark a device with user- or application-specific information.
Function tag	25	0	StringT	***	RW	User defined function tag
Location tag	26	0	StringT	***	RW	User defined location tag
Error Count	32	0	UIntegerT		R	Number of errors that occurred in the technology-specific application since power on or restart.
Device Status	36	0	UIntegerT		R	Indicator for the current device condition and diagnosis state.
Detailed Device Status	37	0	ArrayT	0x00,0x00,0x00	R	List of all currently pending events in the device.
	37	0	OctetStringT		R	
Lot	64	0	StringT		R	Production Lot
Temperature	86	0	IntegerT		R	Device Temperature
Operating Hours	93	0	UIntegerT		R	Duration of Duty
Number of Switch On	94	0	UIntegerT		R	Number of Switch On
Minimal Temperature	95	0	IntegerT		R	Minimal Temperature in Use
Maximal Temperature	96	0	IntegerT		R	Maximal Temperature in Use
Error Indication IOL-Communication	601	0	UIntegerT	0	RW	Error Indication IOL-Communication 0: disabled 1: enabled
Device Control	602	0	UIntegerT	1	RW	Device Control 1: External Trigger 2: Segment-Mode (PD) 3: Level-Mode (PD) 4: Demo-Mode



Parameter	Index	Subindex	Data type	Default	AR	Description
Selection Pre-Set	604	0	UIntegerT	0	RW	Simulation of all eight selectable presets in external trigger mode parallel to an IO-Link connection  0: 0 (Simulation off) 1: Pre-Set 1 2: Pre-Set 2 3: Pre-Set 3 4: Pre-Set 4 5: Pre-Set 5 6: Pre-Set 6 7: Pre-Set 7 8: Pre-Set 8
Selection Number of Segments	610	0	UIntegerT	3	RW	Selection of the number of segments in segment mode (PD)  1, 3
Direction Of Display	615	0	UIntegerT	0	RW	Direction Of Display  0: Bottom > Top 1: Top > Bottom
Mode	616	0	UIntegerT	0	RW	Mode  0: Segments increasing 1: Segments moving
Dynamic-Mode active Segment	617	0	UIntegerT	1	RW	Dynamic mode active segment (foreground color)  1: Cycling 2: Flashing
Dynamic-Mode inactive Segment	618	0	UIntegerT	1	RW	Dynamic mode inactive segment (background color)  1: Cycling 2: Flashing
Name	620	0	StringT	Aus/Off (Factory Setting)	RW	Designation freely selectable
Name	621	0	StringT	Rot/Red (Factory Setting)	RW	Designation freely selectable
Name	622	0	StringT	Grün/Green (Factory Setting)	RW	Designation freely selectable
Name	623	0	StringT	Gelb/Yellow (Factory Setting)	RW	Designation freely selectable
Name	624	0	StringT	Blau/Blue (Factory Setting)	RW	Designation freely selectable
Name	625	0	StringT	Weiß/White (Factory Setting)	RW	Designation freely selectable
Name	626	0	StringT	Orange (Factory Setting)	RW	Designation freely selectable
Name	627	0	StringT	Rosa/Pink (Factory Setting)	RW	Designation freely selectable
Color Proportion	650	0	RecordT		RW	Color Proportion

Parameter	Index	Subindex	Data type	Default	AR	Description
Red	650	1	UIntegerT	0	RW	Red Proportion (0 ... 100)
Green	650	2	UIntegerT	0	RW	Green Proportion (0 ... 100)
Blue	650	3	UIntegerT	0	RW	Blue Proportion (0 ... 100)
Color Proportion	651	0	RecordT		RW	Color Proportion
Red	651	1	UIntegerT	100	RW	Red Proportion (0 ... 100)
Green	651	2	UIntegerT	0	RW	Green Proportion (0 ... 100)
Blue	651	3	UIntegerT	0	RW	Blue Proportion (0 ... 100)
Color Proportion	652	0	RecordT		RW	Color Proportion
Red	652	1	UIntegerT	0	RW	Red Proportion (0 ... 100)
Green	652	2	UIntegerT	100	RW	Green Proportion (0 ... 100)
Blue	652	3	UIntegerT	0	RW	Blue Proportion (0 ... 100)
Color Proportion	653	0	RecordT		RW	Color Proportion
Red	653	1	UIntegerT	73	RW	Red Proportion (0 ... 100)
Green	653	2	UIntegerT	52	RW	Green Proportion (0 ... 100)
Blue	653	3	UIntegerT	0	RW	Blue Proportion (0 ... 100)
Color Proportion	654	0	RecordT		RW	Color Proportion
Red	654	1	UIntegerT	0	RW	Red Proportion (0 ... 100)
Green	654	2	UIntegerT	0	RW	Green Proportion (0 ... 100)
Blue	654	3	UIntegerT	100	RW	Blue Proportion (0 ... 100)
Color Proportion	655	0	RecordT		RW	Color Proportion
Red	655	1	UIntegerT	40	RW	Red Proportion (0 ... 100)
Green	655	2	UIntegerT	50	RW	Green Proportion (0 ... 100)

Parameter	Index	Subindex	Data type	Default	AR	Description
Blue	655	3	UIntegerT	35	RW	Blue Proportion (0 ... 100)
Color Proportion	656	0	RecordT		RW	Color Proportion
Red	656	1	UIntegerT	94	RW	Red Proportion (0 ... 100)
Green	656	2	UIntegerT	31	RW	Green Proportion (0 ... 100)
Blue	656	3	UIntegerT	0	RW	Blue Proportion (0 ... 100)
Color Proportion	657	0	RecordT		RW	Color Proportion
Red	657	1	UIntegerT	85	RW	Red Proportion (0 ... 100)
Green	657	2	UIntegerT	7	RW	Green Proportion (0 ... 100)
Blue	657	3	UIntegerT	33	RW	Blue Proportion (0 ... 100)
Seg 1	681	0	RecordT		RW	Segment
Intensity	681	1	UIntegerT	100	RW	Intensity (10 ... 100)
Dynamic-Mode	681	2	UIntegerT	1	RW	Dynamic-Mode 1: Cycling 2: Flashing
Seg 2	682	0	RecordT		RW	Segment
Intensity	682	1	UIntegerT	100	RW	Intensity (10 ... 100)
Dynamic-Mode	682	2	UIntegerT	1	RW	Dynamic-Mode 1: Cycling 2: Flashing
Seg 3	683	0	RecordT		RW	Segment
Intensity	683	1	UIntegerT	100	RW	Intensity (10 ... 100)
Dynamic-Mode	683	2	UIntegerT	1	RW	Dynamic-Mode 1: Cycling 2: Flashing
Seg 1	701	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	701	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	701	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	701	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	702	0	RecordT		RW	Segment Preset
Color	702	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	702	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	702	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	703	0	RecordT		RW	Segment Preset
Color	703	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	703	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	703	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	721	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	721	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	721	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	721	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	722	0	RecordT		RW	Segment Preset
Color	722	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	722	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	722	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	723	0	RecordT		RW	Segment Preset
Color	723	1	UIntegerT	1	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	723	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	723	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	741	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	741	1	UIntegerT	2	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	741	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	741	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	742	0	RecordT		RW	Segment Preset
Color	742	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	742	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	742	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	743	0	RecordT		RW	Segment Preset
Color	743	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	743	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	743	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	761	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	761	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	761	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	761	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	762	0	RecordT		RW	Segment Preset
Color	762	1	UIntegerT	3	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	762	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	762	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	763	0	RecordT		RW	Segment Preset
Color	763	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	763	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	763	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	781	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	781	1	UIntegerT	4	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	781	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	781	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	782	0	RecordT		RW	Segment Preset
Color	782	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	782	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	782	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	783	0	RecordT		RW	Segment Preset
Color	783	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	783	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	783	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	801	0	RecordT		RW	Segment Preset



Parameter	Index	Subindex	Data type	Default	AR	Description
Color	801	1	UIntegerT	5	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	801	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	801	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	802	0	RecordT		RW	Segment Preset
Color	802	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	802	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	802	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	803	0	RecordT		RW	Segment Preset
Color	803	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	803	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	803	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	821	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	821	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	821	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	821	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	822	0	RecordT		RW	Segment Preset
Color	822	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	822	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	822	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	823	0	RecordT		RW	Segment Preset
Color	823	1	UIntegerT	1	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	823	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	823	3	UIntegerT	1	RW	Mode 0: static 1: cycling 2: flashing
Seg 1	841	0	RecordT		RW	Segment Preset

Parameter	Index	Subindex	Data type	Default	AR	Description
Color	841	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	841	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	841	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 2	842	0	RecordT		RW	Segment Preset
Color	842	1	UIntegerT	0	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	842	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	842	3	UIntegerT	0	RW	Mode 0: static 1: cycling 2: flashing
Seg 3	843	0	RecordT		RW	Segment Preset
Color	843	1	UIntegerT	1	RW	Color 0: Color 000 1: Color 001 2: Color 010 3: Color 011 4: Color 100 5: Color 101 6: Color 110 7: Color 111
Intensity	843	2	UIntegerT	100	RW	Intensity (10 ... 100)
Mode	843	3	UIntegerT	2	RW	Mode 0: static 1: cycling 2: flashing

## 9 Technical specifications

### 9.1 General data

Tab. 9.1: Sensor and IODD version

IODD version	V1.0
IODD release date	2022-11-22
Device family	Signaling Column
Device ID	5000
Device name	TL305-3MC-IOL-M12
Device variants	TL305-3MC-IOL-M12 (50149097)