IODD device description for Capacitive Sensor KAS-80-26-IOL-ATEX

Rechner-Sensors-KAS-80-26-IOL-ATEX-20261026-IODD1.1.xml · Generated from the IODD on 2026-10-26

Device name	KAS-80-26-IOL-ATEX	**Device ID**	3 (0x000003)
Device family	KAS	**IO-Link revision**	V1.1
IODD version	V1.0	**Compatible with**	V1.0
IODD release date	2026-10-26	**Bitrate**	COM3
Copyright	2026, Rechner Industrie-Elektronik GmbH	**Minimum cycle time**	1000 µs
Vendor ID	1129 (0x0469)	**SIO mode supported**	yes
Vendor name	Rechner Industrie-Elektronik GmbH	**Block parameterization**	yes
Vendor text	RECHNER Sensors - World of Capacitive Sensors	**Data storage**	yes
Vendor URL	https://www.rechner-sensors.com/dokumentation/io-link	**Supported access locks**	Local Parameterization

Device variants

Product ID	Name	Description
KA1804	KAS-80-26/113-A-G1-PTFE-IOL-Y10C-ETW-HP-2G-1/2D, ATEX	Housing material: PTFE. Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant εr from 1,1
KA1809	KAS-80-26/113-A-G1-PTFE-IOL-Y10-ETW-HP-1/2D, ATEX	Housing material: PTFE. Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant εr from 1,1
KA1810	KAS-80-26/113-A-G1-PTFE-IOL-Z05-ETW-HP-2G-1/2D, ATEX	Housing material: PTFE. Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant εr from 1,1

Connection: M12 connector, 5-pin (cable versions: 5 wires)

Pin	Color	Function
1	brown	L+ (supply)
2	white	2nd output in SIO mode
3	blue	L- (ground)
4	black	C/Q (IO-Link / switching output)
5	grey	Teach input (EasyTeach), SIO mode only

Parameters (ISDU)

Standard parameters according to IO-Link Interface and System Specification V1.1.5 and Common Profile V1.2; device specific parameters according to this IODD.

Index	Sub-index (bit offset)	Name	Description	Data type	Length	Access	Default	Value (range)	Unit
2	0	**System Command**	Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function. See table of system commands.	UIntegerT	8 bit	wo			

Index	Sub-index (bit offset)	Name	Description	Data type	Length	Access	Default	Value (range)	Unit
12	0	**Device Access Locks**	The access to the device parameters can be restricted by setting appropriate flags within this parameter. Only the lock bit listed below is implemented; the remaining bits are reserved and rejected.	RecordT	16 bit	rw			
	3 (2)	Local Parameterization	This lock prevents the device settings from being changed via local operating elements on the device.	BooleanT	1 bit		0	1 = Locked; 0 = Unlocked	
16	0	**Vendor Name**	The vendor name that is assigned to a Vendor ID.	StringT	64 byte	ro	Rechner Industrie-Elektronik		
17	0	**Vendor Text**	Additional information about the vendor.	StringT	64 byte	ro	www.rechner-sensors.com		
18	0	**Product Name**	Complete product name.	StringT	64 byte	ro			
19	0	**Product ID**	Vendor-specific product or type identification (e.g., item number or model number).	StringT	64 byte	ro			
20	0	**Product Text**	Additional product information for the device.	StringT	64 byte	ro	Capacitive Sensor		
21	0	**Serial Number**	Unique, vendor-specific identifier of the individual device.	StringT	16 byte	ro			
24	0	**Application-specific Tag**	Possibility to mark a device with user- or application-specific information.	StringT	32 byte	rw	***		
25	0	**Function Tag**	Possibility to mark a device with function-specific information.	StringT	32 byte	rw	***		
26	0	**Location Tag**	Possibility to mark a device with location-specific information.	StringT	32 byte	rw	***		
32	0	**Error Count**	Number of errors that occurred in the technology-specific application since power on or restart.	UIntegerT	16 bit	ro	0		
36	0	**Device Status**	Indicator for the current device condition and diagnosis state.	UIntegerT	8 bit	ro		0 = Device is OK; 1 = Maintenance required; 2 = Out of specification; 3 = Functional check; 4 = Failure	
37	0	**Detailed Device Status**	List of all currently pending events in the device.	ArrayT (16 x OctetStringT)	16 x 3 byte	ro			
40	0	**PD Input**	Last valid process input data of the device. Layout: see process data input.	RecordT	16 bit	ro			
64	0	**PDV limits**	Limits values for process data	RecordT	32 bit	ro			
	1 (16)	PDV Min		UIntegerT	16 bit		0	0 … 1023	
	2 (0)	PDV Max		UIntegerT	16 bit		1023	0 … 1023	
74	0	**Damping (dAP)**	Damping of the process value PDV: number of averaged measurements, about 2 ms each (1 = no averaging)	UIntegerT	16 bit	rw	50	1 … 2000	
76	0	**Switch-on delay (dS)**	Switch-on delay BDC1	UIntegerT	32 bit	rw		0 … 18000000	ms
78	0	**Switch-off delay (dr)**	Switch-off delay BDC1	UIntegerT	32 bit	rw		0 … 18000000	ms
197	0	**Teach-in status**		UIntegerT	8 bit	ro		5 = Busy; 7 = Error; 12 = Empty Adjustment Success; 13 = Full Adjustment Success; 14 = Application Reset Success; 15 = Factory Settings Success	
198	0	**Turn ON (SP.Lo)**		UIntegerT	16 bit	rw	392	0 … 1023	
199	0	**Switch parameters of BDC1**		RecordT	32 bit	rw			

Index	Sub-index (bit offset)	Name	Description	Data type	Length	Access	Default	Value (range)	Unit
	1 (24)	Switch point logic (logic)		UIntegerT	8 bit		0	0 = Normally open (NO); 1 = Normally closed (NC)	
	3 (0)	Hysteresis (HY)		UIntegerT	16 bit		20	0 … 1023	

System commands (index 2)

Value	Name	Description
129	Application Reset	The parameters of the technology-specific application are set to default values. Identification parameters remain unchanged. An upload to the data storage of the master will be executed, if activated in the port configuration of the master.
130	Restore Factory Settings	Like application reset (129); in addition the tags are set to their factory values and the error counters and events are cleared.
131	Back-to-box	The parameters of the device are set to factory default values and communication will be inhibited until the next power cycle. Note: Directly detach the device from the master port!
180	Test function on	Both LEDs blink and the switching signal BDC1 in the process data pulses; parameters remain unchanged.
181	Test function off	Ends the test function.
201	Empty adjustment	Empty adjustment: sets the switch point relative to the current (uncovered) measured value. Takes 5 s.
202	Full adjustment	Full adjustment: sets the switch point relative to the current (covered) measured value. Takes 5 s.
240	Test event A appears	Test event A (0x8DFE) appears; for conformance tests only.
241	Test event A disappears	Test event A disappears.
242	Test event B appears	Test event B (0x8DFF) appears; for conformance tests only.
243	Test event B disappears	Test event B disappears.

Events

Code (hex / dec)	Name	Type	Description
0x1850 / 6224	Data Flash Error active	Error	Should Event still active after power reset the device is defect
0x1851 / 6225	Meas-value overvoltage detected	Warning	Noise detected or Device defect
0x1870 / 6256	Test function active	Warning	Event appears by sending value 180 for Index 2 and disappears by sending value 181

ISDU error codes

Code (hex / dec)	Name	Description
0x8000 / 0	Device application error - no details	Service was denied by the technology-specific application. No detailed root-cause information is available.
0x8011 / 17	Index not available	Read or write access attempt to a non-existing index.
0x8012 / 18	Subindex not available	Read or write access attempt to a non-existing subindex of an existing index.
0x8020 / 32	Service temporarily not available	Parameter not accessible due to the current state of the technology-specific application.
0x8022 / 34	Service temporarily unavailable - device control	Parameter not accessible. The technology-specific application is currently in a remotely triggered operation.
0x8023 / 35	Access denied	Write access to a read-only parameter or read access to write-only parameter.
0x8030 / 48	Parameter value out of range	Written parameter value is outside of the permitted value range.
0x8031 / 49	Parameter value above limit	Written parameter value is above its specified value range.
0x8032 / 50	Parameter value below limit	Written parameter value is below its specified value range.
0x8033 / 51	Parameter length overrun	Written parameter is longer than specified.

Code (hex / dec)	Name	Description
0x8034 / 52	Parameter length underrun	Written parameter is shorter than specified.
0x8035 / 53	Function unavailable	Written command is not supported by the technology-specific application.
0x8036 / 54	Function temporarily unavailable	Written command is unavailable due to the current state of the technology-specific application.
0x8040 / 64	Invalid parameter set	Written single parameter value collides with other existing parameter settings.
0x8041 / 65	Inconsistent parameter set	Parameter set inconsistencies at the end of block parameter transfer. Device plausibility check failed.
0x8082 / 130	Application not ready	Read or write access denied. The technology-specific application is temporarily unavailable.

Process data input (16 bit)

Sub-index (bit offset)	Name	Description	Data type	Length	Bit(s)	Value (range)
1 (6)	**PDV**	Process value	UIntegerT	10 bit	6 … 15	0 … 1023
3 (0)	**BDC1**	BDC1 switching status	BooleanT	1 bit	0	0 = 0 (off); 1 = 1 (on)

Process data structure (16 bit)

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
PDV bit 9	PDV bit 8	PDV bit 7	PDV bit 6	PDV bit 5	PDV bit 4	PDV bit 3	PDV bit 2	PDV bit 1	PDV bit 0	not used	not used	not used	not used	not used	BDC1