S15C Modbus Converter (Generic) - IO-Link Data Reference Guide

IO-Link Data Map

This document refers to the following IODD file: Banner_Engineering-S15C-MGN-KQ-20200715-IODD1.1.xml. The IODD file and support files can be found on www.bannerengineering.com under the download section of the product family page.

Communication Parameters

The following communication parameters are used.

Parameter	Value
IO-Link revision	V1.1
Process Data In length	256 bits
Process Data Out length	248 bits
Bit Rate	38400 bps
Minimum cycle time	22.4 ms
Device ID	659457

Parameter	Value
Port class	A
SIO mode	No
Smart Sensor Profile	No
Block parameterization	Yes
Data Storage	Yes

IO-Link Process Data In (Device to Master)

Process Data In is transmitted cyclically to the IO-Link master from the IO-Link device.

RegSet = 0

Subindex	Name	Number of Bits	Data Values	Modbus Register Address	Description
1	Register Set To Read	4-bit Uinteger	0..3		Register Set To Read - Value set via Process Data Out
2	Register Read Successful	Boolean	0=false, 1=true		Register Read Successful
3	Register Write Successful	Boolean	0=false, 1=true		Register Write Successful
4	Register Verify Successful	Boolean	0=false, 1=true		Register Verify Successful
5	Counter Value	8-bit Uinteger	0..255		Counter increments upon the completion of Reg Set ModBus request/response cycle
6	Read Set Register 01 Value	16-bit Uinteger	0..65535		Register 01 Address value - Index 96 Parameter Data Read Register Set 0 Setting
7	Read Set Register 02 Value	16-bit Uinteger	0..65535		Register 02 Address value - Index 96 Parameter Data Read Register Set 0 Setting
8	Read Set Register 03 Value	16-bit Uinteger	0..65535		Register 03 Address value - Index 96 Parameter Data Read Register Set 0 Setting
9	Read Set Register 04 Value	16-bit Uinteger	0..65535		Register 04 Address value - Index 96 Parameter Data Read Register Set 0 Setting
10	Read Set Register 05 Value	16-bit Uinteger	0..65535		Register 05 Address value - Index 96 Parameter Data Read Register Set 0 Setting
11	Read Set Register 06 Value	16-bit Uinteger	0..65535		Register 06 Address value - Index 96 Parameter Data Read Register Set 0 Setting
12	Read Set Register 07 Value	16-bit Uinteger	0..65535		Register 07 Address value - Index 96 Parameter Data Read Register Set 0 Setting
13	Read Set Register 08 Value	16-bit Uinteger	0..65535		Register 08 Address value - Index 96 Parameter Data Read Register Set 0 Setting
14	Read Set Register 09 Value	16-bit Uinteger	0..65535		Register 09 Address value - Index 96 Parameter Data Read Register Set 0 Setting
15	Read Set Register 10 Value	16-bit Uinteger	0..65535		Register 10 Address value - Index 96 Parameter Data Read Register Set 0 Setting

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ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Subindex	Name	Number of Bits	Data Values	Modbus Register Address	Description
16	Read Set Register 11 Value	16-bit Uinteger	0..65535		Register 11 Address value - Index 96 Parameter Data Read Register Set 0 Setting
17	Read Set Register 12 Value	16-bit Uinteger	0..65535		Register 12 Address value - Index 96 Parameter Data Read Register Set 0 Setting
18	Read Set Register 13 Value	16-bit Uinteger	0..65535		Register 13 Address value - Index 96 Parameter Data Read Register Set 0 Setting
19	Read Set Register 14 Value	16-bit Uinteger	0..65535		Register 14 Address value - Index 96 Parameter Data Read Register Set 0 Setting
20	Read Set Register 15 Value	16-bit Uinteger	0..65535		Register 15 Address value - Index 96 Parameter Data Read Register Set 0 Setting

RegSet = 1

Subindex	Name	Number of Bits	Data Values	Modbus Register Address	Description
1	Register Set To Read	4-bit Uinteger	0..3		Register Set To Read - Value set via Process Data Out
2	Register Read Successful	Boolean	0=false, 1=true		Register Read Successful
3	Register Write Successful	Boolean	0=false, 1=true		Register Write Successful
4	Register Verify Successful	Boolean	0=false, 1=true		Register Verify Successful
5	Counter Value	8-bit Uinteger	0..255		Counter increments upon the completion of Reg Set ModBus request/response cycle
6	Read Set Register 01 Value	16-bit Uinteger	0..65535		Register 01 Address value - Index 97 Parameter Data Read Register Set 1 Setting
7	Read Set Register 02 Value	16-bit Uinteger	0..65535		Register 02 Address value - Index 97 Parameter Data Read Register Set 1 Setting
8	Read Set Register 03 Value	16-bit Uinteger	0..65535		Register 03 Address value - Index 97 Parameter Data Read Register Set 1 Setting
9	Read Set Register 04 Value	16-bit Uinteger	0..65535		Register 04 Address value - Index 97 Parameter Data Read Register Set 1 Setting
10	Read Set Register 05 Value	16-bit Uinteger	0..65535		Register 05 Address value - Index 97 Parameter Data Read Register Set 1 Setting
11	Read Set Register 06 Value	16-bit Uinteger	0..65535		Register 06 Address value - Index 97 Parameter Data Read Register Set 1 Setting
12	Read Set Register 07 Value	16-bit Uinteger	0..65535		Register 07 Address value - Index 97 Parameter Data Read Register Set 1 Setting
13	Read Set Register 08 Value	16-bit Uinteger	0..65535		Register 08 Address value - Index 97 Parameter Data Read Register Set 1 Setting
14	Read Set Register 09 Value	16-bit Uinteger	0..65535		Register 09 Address value - Index 97 Parameter Data Read Register Set 1 Setting
15	Read Set Register 10 Value	16-bit Uinteger	0..65535		Register 10 Address value - Index 97 Parameter Data Read Register Set 1 Setting
16	Read Set Register 11 Value	16-bit Uinteger	0..65535		Register 11 Address value - Index 97 Parameter Data Read Register Set 1 Setting
17	Read Set Register 12 Value	16-bit Uinteger	0..65535		Register 12 Address value - Index 97 Parameter Data Read Register Set 1 Setting
18	Read Set Register 13 Value	16-bit Uinteger	0..65535		Register 13 Address value - Index 97 Parameter Data Read Register Set 1 Setting
19	Read Set Register 14 Value	16-bit Uinteger	0..65535		Register 14 Address value - Index 97 Parameter Data Read Register Set 1 Setting
20	Read Set Register 15 Value	16-bit Uinteger	0..65535		Register 15 Address value - Index 97 Parameter Data Read Register Set 1 Setting

RegSet = 2

Subindex	Name	Number of Bits	Data Values	Modbus Register Address	Description
1	Register Set To Read	4-bit Uinteger	0..3		Register Set To Read - Value set via Process Data Out
2	Register Read Successful	Boolean	0=false, 1=true		Register Read Successful
3	Register Write Successful	Boolean	0=false, 1=true		Register Write Successful
4	Register Verify Successful	Boolean	0=false, 1=true		Register Verify Successful
5	Counter Value	8-bit Uinteger	0..255		Counter increments upon the completion of Reg Set ModBus request/response cycle
6	Read Set Register 01 Value	16-bit Uinteger	0..65535		Register 01 Address value - Index 98 Parameter Data Read Register Set 2 Setting
7	Read Set Register 02 Value	16-bit Uinteger	0..65535		Register 02 Address value - Index 98 Parameter Data Read Register Set 2 Setting
8	Read Set Register 03 Value	16-bit Uinteger	0..65535		Register 03 Address value - Index 98 Parameter Data Read Register Set 2 Setting
9	Read Set Register 04 Value	16-bit Uinteger	0..65535		Register 04 Address value - Index 98 Parameter Data Read Register Set 2 Setting
10	Read Set Register 05 Value	16-bit Uinteger	0..65535		Register 05 Address value - Index 98 Parameter Data Read Register Set 2 Setting
11	Read Set Register 06 Value	16-bit Uinteger	0..65535		Register 06 Address value - Index 98 Parameter Data Read Register Set 2 Setting
12	Read Set Register 07 Value	16-bit Uinteger	0..65535		Register 07 Address value - Index 98 Parameter Data Read Register Set 2 Setting
13	Read Set Register 08 Value	16-bit Uinteger	0..65535		Register 08 Address value - Index 98 Parameter Data Read Register Set 2 Setting
14	Read Set Register 09 Value	16-bit Uinteger	0..65535		Register 09 Address value - Index 98 Parameter Data Read Register Set 2 Setting
15	Read Set Register 10 Value	16-bit Uinteger	0..65535		Register 10 Address value - Index 98 Parameter Data Read Register Set 2 Setting
16	Read Set Register 11 Value	16-bit Uinteger	0..65535		Register 11 Address value - Index 98 Parameter Data Read Register Set 2 Setting
17	Read Set Register 12 Value	16-bit Uinteger	0..65535		Register 12 Address value - Index 98 Parameter Data Read Register Set 2 Setting
18	Read Set Register 13 Value	16-bit Uinteger	0..65535		Register 13 Address value - Index 98 Parameter Data Read Register Set 2 Setting
19	Read Set Register 14 Value	16-bit Uinteger	0..65535		Register 14 Address value - Index 98 Parameter Data Read Register Set 2 Setting
20	Read Set Register 15 Value	16-bit Uinteger	0..65535		Register 15 Address value - Index 98 Parameter Data Read Register Set 2 Setting

RegSet = 3

Subindex	Name	Number of Bits	Data Values	Modbus Register Address	Description
1	Register Set To Read	4-bit Uinteger	0..3		Register Set To Read - Value set via Process Data Out
2	Register Read Successful	Boolean	0=false, 1=true		Register Read Successful
3	Register Write Successful	Boolean	0=false, 1=true		Register Write Successful
4	Register Verify Successful	Boolean	0=false, 1=true		Register Verify Successful
5	Counter Value	8-bit Uinteger	0..255		Counter increments upon the completion of Reg Set ModBus request/response cycle
6	Read Set Register 01 Value	16-bit Uinteger	0..65535		Register 01 Address value - Index 99 Parameter Data Read Register Set 3 Setting
7	Read Set Register 02 Value	16-bit Uinteger	0..65535		Register 02 Address value - Index 99 Parameter Data Read Register Set 3 Setting

Subindex	Name	Number of Bits	Data Values	Modbus Register Address	Description
8	Read Set Register 03 Value	16-bit Uinteger	0..65535		Register 03 Address value - Index 99 Parameter Data Read Register Set 3 Setting
9	Read Set Register 04 Value	16-bit Uinteger	0..65535		Register 04 Address value - Index 99 Parameter Data Read Register Set 3 Setting
10	Read Set Register 05 Value	16-bit Uinteger	0..65535		Register 05 Address value - Index 99 Parameter Data Read Register Set 3 Setting
11	Read Set Register 06 Value	16-bit Uinteger	0..65535		Register 06 Address value - Index 99 Parameter Data Read Register Set 3 Setting
12	Read Set Register 07 Value	16-bit Uinteger	0..65535		Register 07 Address value - Index 99 Parameter Data Read Register Set 3 Setting
13	Read Set Register 08 Value	16-bit Uinteger	0..65535		Register 08 Address value - Index 99 Parameter Data Read Register Set 3 Setting
14	Read Set Register 09 Value	16-bit Uinteger	0..65535		Register 09 Address value - Index 99 Parameter Data Read Register Set 3 Setting
15	Read Set Register 10 Value	16-bit Uinteger	0..65535		Register 10 Address value - Index 99 Parameter Data Read Register Set 3 Setting
16	Read Set Register 11 Value	16-bit Uinteger	0..65535		Register 11 Address value - Index 99 Parameter Data Read Register Set 3 Setting
17	Read Set Register 12 Value	16-bit Uinteger	0..65535		Register 12 Address value - Index 99 Parameter Data Read Register Set 3 Setting
18	Read Set Register 13 Value	16-bit Uinteger	0..65535		Register 13 Address value - Index 99 Parameter Data Read Register Set 3 Setting
19	Read Set Register 14 Value	16-bit Uinteger	0..65535		Register 14 Address value - Index 99 Parameter Data Read Register Set 3 Setting
20	Read Set Register 15 Value	16-bit Uinteger	0..65535		Register 15 Address value - Index 99 Parameter Data Read Register Set 3 Setting

Example Process Data In

Octet 0								
Subindex	20	20	20	20	20	20	20	20
Bit offset	255	254	253	252	251	250	249	248

Octet 1								
Subindex	20	20	20	20	20	20	20	20
Bit offset	247	246	245	244	243	242	241	240

Octet 2								
Subindex	19	19	19	19	19	19	19	19
Bit offset	239	238	237	236	235	234	233	232

Octet 3								
Subindex	19	19	19	19	19	19	19	19
Bit offset	231	230	229	228	227	226	225	224

Octet 4								
Subindex	18	18	18	18	18	18	18	18
Bit offset	223	222	221	220	219	218	217	216

Octet 5								
Subindex	18	18	18	18	18	18	18	18
Bit offset	215	214	213	212	211	210	209	208

Octet 6								
Subindex	17	17	17	17	17	17	17	17

Octet 6								
Bit offset	207	206	205	204	203	202	201	200

Octet 7								
Subindex	17	17	17	17	17	17	17	17
Bit offset	199	198	197	196	195	194	193	192

Octet 8								
Subindex	16	16	16	16	16	16	16	16
Bit offset	191	190	189	188	187	186	185	184

Octet 9								
Subindex	16	16	16	16	16	16	16	16
Bit offset	183	182	181	180	179	178	177	176

Octet 10								
Subindex	15	15	15	15	15	15	15	15
Bit offset	175	174	173	172	171	170	169	168

Octet 11								
Subindex	15	15	15	15	15	15	15	15
Bit offset	167	166	165	164	163	162	161	160

Octet 12								
Subindex	14	14	14	14	14	14	14	14
Bit offset	159	158	157	156	155	154	153	152

Octet 13								
Subindex	14	14	14	14	14	14	14	14
Bit offset	151	150	149	148	147	146	145	144

Octet 14								
Subindex	13	13	13	13	13	13	13	13
Bit offset	143	142	141	140	139	138	137	136

Octet 15								
Subindex	13	13	13	13	13	13	13	13
Bit offset	135	134	133	132	131	130	126	128

Octet 16								
Subindex	12	12	12	12	12	12	12	12
Bit offset	127	126	125	124	123	122	121	120

Octet 17								
Subindex	12	12	12	12	12	12	12	12
Bit offset	119	118	117	116	115	114	113	112

Octet 18								
Subindex	11	11	11	11	11	11	11	11
Bit offset	111	110	109	108	107	106	105	104

Octet 19								
Subindex	11	11	11	11	11	11	11	11
Bit offset	103	102	101	100	99	98	97	96

Octet 20								
Subindex	10	10	10	10	10	10	10	10
Bit offset	95	94	93	92	91	90	89	88

Octet 21								
Subindex	10	10	10	10	10	10	10	10
Bit offset	87	86	85	84	83	82	81	80

Octet 22								
Subindex	9	9	9	9	9	9	9	9
Bit offset	79	78	77	76	75	74	73	72

Octet 23								
Subindex	9	9	9	9	9	9	9	9
Bit offset	71	70	69	68	67	66	65	64

Octet 24								
Subindex	8	8	8	8	8	8	8	8
Bit offset	63	62	61	60	59	58	57	56

Octet 25								
Subindex	8	8	8	8	8	8	8	8
Bit offset	55	54	53	52	51	50	49	48

Octet 26								
Subindex	7	7	7	7	7	7	7	7
Bit offset	47	46	45	44	43	42	41	40

Octet 27								
Subindex	7	7	7	7	7	7	7	7
Bit offset	39	38	37	36	35	34	33	32

Octet 28								
Subindex	6	6	6	6	6	6	6	6
Bit offset	31	30	29	28	27	26	25	24

Octet 29								
Subindex	6	6	6	6	6	6	6	6
Bit offset	23	22	21	20	19	18	17	16

Octet 30								
Subindex	5	5	5	5	5	5	5	5
Bit offset	15	14	13	12	11	10	9	8

Octet 31								
Subindex	///	4	3	2	1	1	1	1
Bit offset	7	6	5	4	3	2	1	0

IO-Link Process Data Out (Master to Device)

Subindex	Name	Number of Bits	Data Values
1	Register Set To Read	8	0..3
2	Write Set Register 01 Value	16-bit Uinteger	0..65535

Subindex	Name	Number of Bits	Data Values
3	Write Set Register 02 Value	16-bit Uinteger	0..65535
4	Write Set Register 03 Value	16-bit Uinteger	0..65535
5	Write Set Register 04 Value	16-bit Uinteger	0..65535
6	Write Set Register 05 Value	16-bit Uinteger	0..65535
7	Write Set Register 06 Value	16-bit Uinteger	0..65535
8	Write Set Register 07 Value	16-bit Uinteger	0..65535
9	Write Set Register 08 Value	16-bit Uinteger	0..65535
10	Write Set Register 09 Value	16-bit Uinteger	0..65535
11	Write Set Register 10 Value	16-bit Uinteger	0..65535
12	Write Set Register 11 Value	16-bit Uinteger	0..65535
13	Write Set Register 12 Value	16-bit Uinteger	0..65535
14	Write Set Register 13 Value	16-bit Uinteger	0..65535
15	Write Set Register 14 Value	16-bit Uinteger	0..65535
16	Write Set Register 15 Value	16-bit Uinteger	0..65535

Example Process Data Out

Octet	0	1	2	3	4	5	6	7
Bit offset	247-240	239-232	231-224	223-216	215-208	207-200	199-192	191-184
Subindex	16	16	15	15	14	14	13	13
Element bit	15-8	7-0	15-8	7-0	15-8	7-0	15-8	7-0

Octet	8	9	10	11	12	13	14	15
Bit offset	183-176	175-168	167-160	159-152	151-144	143-136	135-128	127-120
Subindex	12	12	11	11	10	10	9	9
Element bit	15-8	7-0	15-8	7-0	15-8	7-0	15-8	7-0

Octet	16	17	18	19	20	21	22	23
Bit offset	119-112	111-104	103-96	95-88	87-80	79-72	71-64	63-56
Subindex	8	8	7	7	6	6	5	5
Element bit	15-8	7-0	15-8	7-0	15-8	7-0	15-8	7-0

Octet	24	25	26	27	28	29	30	
Bit offset	55-48	47-40	39-32	31-24	23-16	15-8	7-0	
Subindex	4	4	3	3	2	2	1	
Element bit	15-8	7-0	15-8	7-0	15-8	7-0	7-0	

Parameters Set Using IO-Link

These parameters can be read from and/or written to the S15C-MGN-KQ converter. Also included is information about whether the variable in question is saved during Data Storage and whether the variable came from the IO-Link Smart Sensor Profile.

Unlike Process Data In, which is transmitted from the IO-Link device to the IO-Link master cyclically, these parameters are read or written acyclically as needed.

Index	Sub-Index	Name	Length	Value Range	Default	Access Rights	Data Storage?
0	1-15	Direct Parameter Page 1 (incl. Vendor ID & Device ID)				ro	
0	16	Standard Command		130 = Restore Factory Settings, 162 = Start discovery 163 = Stop discovery		wo	
1	1-16	Direct Parameters Page 2				rw	

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
2		Standard Command	8-bit uinteger	130 = Restore Factory Settings 162 = Start discovery 163 = Stop discovery		wo	
3		Data Storage Index (device-specific list of parameters to be stored)					
4-11		*reserved by IO-Link Specification*					
12		**Device Access Locks**					
12	1	Parameter Write Access Lock		0 = off, 1 = on	0	rw	y
12	2	Data Storage Lock		0 = off, 1 = on	0	rw	y
13-15		*unused*				ro	
16		Vendor Name string		Banner Engineering Corporation		ro	
17		Vendor Text string		More Sensors. More Solutions		ro	
18		Product Name string				ro	
19		Product ID string				ro	
20		Product Text string		S15C-MGN-KQ		ro	
21		Serial Number				ro	
22		Hardware Version				ro	
23		Firmware Version				ro	
24		App Specific Tag (user defined)				rw	y
25-35		*reserved*					
36		Device Status	8-bit integer	0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure 5..255 Reserved		ro	
37		Detailed Device Status	Array[6] of 3-octet			ro	
80		**ModBus Setting**					
80	1	ModBus Address	16-bit uinteger	1..247	1	rw	y
80	2	ModBus Baud Rate	16-bit uinteger	24 = 2400 96 = 9600 192 = 19200 384 = 38400 576 = 57600 1152 = 115200	192	rw	y
80	3	ModBus Parity	16-bit uinteger	0 = None 1 = Odd 2 = Even	0	rw	y
80	4	ModBus Stop Bits	16-bit uinteger	1 = 1 2 = 2 3 = 1.5	1	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
96		**Read Register Set 0 Settings**					
96	1	ModBus Register 01 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	2	ModBus Register 02 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	3	ModBus Register 03 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	4	ModBus Register 04 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	5	ModBus Register 05 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	6	ModBus Register 06 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	7	ModBus Register 07 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	8	ModBus Register 08 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
96	9	ModBus Register 09 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	10	ModBus Register 10 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	11	ModBus Register 11 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	12	ModBus Register 12 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	13	ModBus Register 13 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	14	ModBus Register 14 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
96	15	ModBus Register 15 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
97		**Read Register Set 1 Settings**					
97	1	ModBus Register 01 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	2	ModBus Register 02 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	3	ModBus Register 03 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	4	ModBus Register 04 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	5	ModBus Register 05 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	6	ModBus Register 06 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	7	ModBus Register 07 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	8	ModBus Register 08 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	9	ModBus Register 09 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	10	ModBus Register 10 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	11	ModBus Register 11 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	12	ModBus Register 12 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	13	ModBus Register 13 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	14	ModBus Register 14 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
97	15	ModBus Register 15 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
98		**Read Register Set 2 Settings**					
98	1	ModBus Register 01 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	2	ModBus Register 02 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	3	ModBus Register 03 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	4	ModBus Register 04 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	5	ModBus Register 05 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	6	ModBus Register 06 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	7	ModBus Register 07 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	8	ModBus Register 08 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	9	ModBus Register 09 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	10	ModBus Register 10 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	11	ModBus Register 11 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	12	ModBus Register 12 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	13	ModBus Register 13 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	14	ModBus Register 14 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
98	15	ModBus Register 15 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
99		**Read Register Set 3 Settings**					
99	1	ModBus Register 01 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
99	2	ModBus Register 02 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	3	ModBus Register 03 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	4	ModBus Register 04 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	5	ModBus Register 05 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	6	ModBus Register 06 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	7	ModBus Register 07 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	8	ModBus Register 08 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	9	ModBus Register 09 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	10	ModBus Register 10 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	11	ModBus Register 11 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	12	ModBus Register 12 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	13	ModBus Register 13 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	14	ModBus Register 14 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y
99	15	ModBus Register 15 Address	16-bit uinteger	0..65535 where 0 = no register read	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
106	1	ModBus Register 01 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	2	ModBus Register 01 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	3	ModBus Register 01 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	4	Modbus Register 01 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	5	ModBus Register 02 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	6	ModBus Register 02 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	7	ModBus Register 02 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	8	Modbus Register 02 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	9	ModBus Register 03 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	10	ModBus Register 03 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	11	ModBus Register 03 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	12	Modbus Register 03 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	13	ModBus Register 04 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	14	ModBus Register 04 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	15	ModBus Register 04 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	16	Modbus Register 04 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	17	ModBus Register 05 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
106	18	ModBus Register 05 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	19	ModBus Register 05 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	20	Modbus Regiser 05 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	21	ModBus Register 06 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	22	ModBus Register 06 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	23	ModBus Register 06 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	24	Modbus Register 06 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	25	ModBus Register 07 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	26	ModBus Register 07 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	27	ModBus Register 07 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	28	Modbus Regiser 07 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	29	ModBus Register 08 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	30	ModBus Register 08 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	31	ModBus Register 08 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	32	Modbus Register 08 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	33	ModBus Register 09 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	34	ModBus Register 09 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	35	ModBus Register 09 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	36	Modbus Register 09 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	37	ModBus Register 10 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	38	ModBus Register 10 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	39	ModBus Register 10 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	40	Modbus Register 10 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	41	ModBus Register 11 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y

Index	Sub-index	Name	Length	Value Range	Default	Access Rights	Data Storage?
106	42	ModBus Register 11 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	43	ModBus Register 11 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	44	Modbus Register 11 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	45	ModBus Register 12 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	46	ModBus Register 12 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	47	ModBus Register 12 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	48	Modbus Register 12 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	49	ModBus Register 13 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	50	ModBus Register 13 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	51	ModBus Register 13 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	52	Modbus Register 13 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	53	ModBus Register 14 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	54	ModBus Register 14 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	55	ModBus Register 14 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	56	Modbus Register 14 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y
106	57	ModBus Register 15 Address	16-bit uinteger	0..65535 where 0 = no register write	0	rw	y
106	58	ModBus Register 15 Update Type	2-bit uinteger	0 = Write Each Cycle 1 = Write Once 2 = Write Each Cycle if Mismatched 3 = Write Once if Mismatched	0	rw	y
106	59	ModBus Register 15 Check Result	Boolean	0 = false, 1 = true	0	rw	y
106	60	Modbus Register 15 Write Command Type	Boolean	0 = Use Write Multiple Registers Command 1 = Use Write Single Register Command	0	rw	y

IO-Link Events

Events are acyclic transmissions from the IO-Link device to the IO-Link master. Events can be error messages and/or warning or maintenance data.

Events

Code	Type	Description
0 (0x0000)	Notification	No malfunction
20480 (0x5000)	Error	Device hardware fault

ErrorTypes

Code	Additional Code	Description
128 (0x80)	0 (0x00)	Service has been refused by the device application and not detailed information of the incident is available
128 (0x80)	17 (0x11)	Access occurs to a not existing index
128 (0x80)	18 (0x12)	Access occurs to a not existing subindex
128 (0x80)	32 (0x20)	Parameter is not accessible due to the current state of the device application
128 (0x80)	35 (0x23)	Write access on a read-only parameter
128 (0x80)	48 (0x30)	Written parameter value is outside its permitted value range
128 (0x80)	49 (0x31)	Written parameter value is above its specified value range
128 (0x80)	51 (0x33)	Written parameter length is above it predefined length
128 (0x80)	52 (0x34)	Written parameter length is below its predefined length
128 (0x80)	53 (0x35)	Written command is not supported by the device application
128 (0x80)	54 (0x36)	Written command is not available due to the current state of the device application
128 (0x80)	65 (0x41)	Parameter inconsistencies were found at the end of block parameter transfer, device plausibility check failed

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