

# Object dictionary MLG-2

COM3



## 1. Physical Layer

SIO Mode	yes
Min. Cycle Time	3 ms
Baudrate	COM 3 (230.4 kbit/s)
Process Data Length PD In (from Device to Master)	32 Byte In
Process Data Length PD Out (from Master to Device)	1 Byte Out
supported IO-Link Version	IO-Link V1.1

## 2. Process Data

### 2.1 Process Data PD-In (from MLG to IO-Link-Master)

#### Record 32 Byte

3 different data contents can be selected via Index 120

a) Condition: ISDU: Process Data Select, Index 120; Value 0																																
<b>System- &amp; Q-Status + Run-Length Code (RLC)</b>																																
Byte-Offset	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	RLC 15		RLC 14		RLC 13		RLC 12		RLC 11		RLC 10		RLC 9		RLC 8		RLC 7		RLC 6		RLC 5		RLC 4		RLC 3		RLC 2		RLC 1		System Status*)	Output Status*)

b) Condition: ISDU: Process Data Select, Index 120; Value 1																																
<b>System- &amp; Q-Status + Beam Status</b>																																
Byte-Offset	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	beam 225...240		beam 209...224		beam 193...208		beam 177...192		beam 161...176		beam 145...160		beam 129...144		beam 113...128		beam 97...112		beam 81...96		beam 65...80		beam 49...64		beam 33...48		beam 17...32		beam 1...16		System Status*)	Output Status*)

c) Condition: ISDU: Process Data Select, Index 120; Value 2																																
<b>user defined Process Data</b> <span style="float: right;">*) output functions configurable via Index 67</span>																																
Byte-Offset	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
pre setting	no *) function		no *) function		no *) function		no *) function		no *) function		no *) function		no *) function		no *) function		no *) function		no *) function		ID1 *)		ODI *)		FBB *)		LBB *)		NBB *)		System Status*)	Output Status*)

	*) System Status (HIGH Byte)								*) Output-Status (LOW Byte)							
Bit-Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Sync Error	Teach Fail	Hardware Error	Contamination	Teach Active	Over Temperature	Process Data	Q-Short Circuit	not used	not used	not used	not used	Q4	Q3	Q2	Q1
	0 = false    1 = true								0 = OFF    1 = ON							
	*) Q1 ...Q4 Outputs configurable via Index 183-186															

## 2. Process Data

### 2.2 Process Data PD-Out (from IO-Link-Master to MLG)

#### Record 1 Byte

Control-Byte								
Bit Offset	7	6	5	4	3	2	1	0
	TEST	Teach-in	BBH Blocked Beams Hold	Reserved		STANDBY	Reserved	

### 3. Service Data

The following ISDUs will not be saved via Data-Storage: Device Specific Tag, PIN2 Configuration, PIN5 Configuration and Find Me

Index		Sub-Index	Name	Format	Length	access	Default Value	Value / Range	Remark							
DEC	HEX															
<b>Identification</b>																
16	10		Vendor Name	String	32 Byte	ro	SICK AG									
18	12		Product Name	String	18 Byte	ro	MLGXXA-XXXXXXXXX		Product Name & ID cannot be shown completely							
19	13		Product ID	String	7 Byte	ro	1XXXXXX									
20	14		Product Text	String	64 Byte	ro	MLG-2 Pro									
24	18		Application Specific Name	String	32 Byte	rw	*****									
64	40		Device Specific Tag	String	32 Byte	rw										
205	CD		SICK Profile Version	String	4 Byte	ro	1.00									
21	15		Serial Number	String	8 Byte	ro	yymmxxx									
23	17		Firmware Version	String	12 Byte	ro	Vxxx.xxx.xxx									
22	16		Hardware Version	String	4 Byte	ro	xxxx									
204	CC		Find Me	UInt	8 Bit	rw	0	0 = Find Me Inactive 1 = LED's blink with 1 Hz	Switching the Find Me option on, enables a blinking LED pattern on the current connected light grid.							
<b>Teach-In</b>																
2	02		System Command	UInt	8 Bit	wo		160 = Teach-In	all beams will be individually adjusted							
98	62		Teach Result	UInt	8 Bit	ro	Bit No	7	6	5	4	3	2	1	0	contains several bits which hold information about Teach-In failures and their reasons
							0	AutoTeach not possible	Teach-In failure beam blanking	HighSpeed-Mode not possible	Teach-In failure Cross Beam Mode	warning beam signal override	Teach-In failure low beam signal	Teach-In failure Parallel Beam Mode	Teach-In failure general	
							Valuation	0 = false 1 = true								
70	46		Blanking Teach Enable	UInt	8 Bit	rw	0	0 = Blanking Teach Inactive 1 = Blanking Teach Active	Beams, which are currently blocked will be muted after the next Teach-In							
188	BC		Blank all Currently Blocked Beams	UInt	8 Bit	wo		1 = Execute	Beams, which are currently blocked will be muted - all threshold settings keep remain							
189	BD		Blank all Currently Made Beams	UInt	8 Bit	wo		1 = Execute	Beams, which are currently made will be muted - all threshold settings keep remain							
<b>Beam Blanking Mask</b>																
72	48		Beam Blanking Mask	Record	64 Byte	rw			User-Bitmask to ignore beams. LSB is beam one. 0 = beam is muted							
	1		Beam 1...32		480 Bit		FFFFFFFF	0 = Beam Inactive 1 = Beam Active								
	2		Beam 33...64		448 Bit		FFFFFFFF									
	3		Beam 65...96		416 Bit		FFFFFFFF									
	4		Beam 97...128		384 Bit		FFFFFFFF									
	5		Beam 129...160		352 Bit		FFFFFFFF									
	6		Beam 161...192		320 Bit		FFFFFFFF									
	7		Beam 193...224		288 Bit		FFFFFFFF									

8	Beam 225...256	Offset	256 Bit	FFFFFFFF
9	Beam 257...288		224 Bit	FFFFFFFF
10	Beam 289...320		192 Bit	FFFFFFFF
11	Beam 321...352		160 Bit	FFFFFFFF
12	Beam 353...384		128 Bit	FFFFFFFF
13	Beam 385...416		96 Bit	FFFFFFFF
14	Beam 417...448		64 Bit	FFFFFFFF
15	Beam 449...480		32 Bit	FFFFFFFF
16	Beam 481...512	0 Bit	FFFFFFFF	

**Performance**

65	41	Device Mode	UInt	8 Bit	rw	0	0 = Standard Mode 1 = Transparent Mode 2 = Sun Light Resistant Mode	Transparent Mode is only available together with Standard Resolution (Index 66 value 0)
66	42	Performance Options	UInt	8 Bit	rw	0	0 = Standard-Resolution 1 = High Resolution 2 = High Functional Reserve 3 = Cross Beam Mode 4 = Cross Beam Mode with High Functional Reserve 5 = High-Speed-Scan 6 = High-Speed-Scan with High Resolution 7 = High-Speed-Scan with High Functional Reserve	Selection for different operational modes
68	44	Transparent Mode	UInt	8 Bit	rw		0 = Attenuation 30% 1 = Attenuation 15% 2 = Attenuation 10%	adjustment or detection of semi transparent objects
75	4B	Standby	UInt	8 Bit	rw	0	0 = Standby Inactive 1 = Standby Aktive	allows low energy consumption
206	CE	Cross Beam Measuring	Bool	1 Bit	rw	false	false = inactive Cross Beam Measuring true = active Cross Beam Measuring	enhanced measurement resolution only effectual in center position

**Process Data**

120	78	Process Data Select	UInt	8 Bit	rw	0	0 = System Status, Q-Status and Run-Length-Code 1 = System Status, Q-Status and Beam Status 2 = user defined process data	for value 1 max. No. of beams = 240
67	43	<b>Process Data User Definition</b>	Record	16 Byte	rw			for individual process data configuration
	1	user defined Output Function 1		120 Bit		17	0 = no function 1 = RLC 1 - 1st value of the Run-Length-Code	32 = Process-Quality
	2	user defined Output Function 2		112 Bit		18	2 = RLC 2 - 2nd value of the Run-Length-Code	33 = Data Update Counter
	3	user defined Output Function 3		104 Bit		22	3 = RLC 3 - 3rd value of the Run-Length-Code 4 = RLC 4 - 4th value of the Run-Length-Code	34 = NBB Z1 - Number Beams Blocked Zone 1 NBB Zone 1 35 = FBB Z1 - First Beam Blocked Zone 1 FBB Zone 1
	4	user defined Output Function 4		96 Bit		20	5 = RLC 5 - 5th value of the Run-Length-Code 6 = RLC 6 - 6th value of the Run-Length-Code	36 = LBB Z1 - Last Beam Blocked Zone 1 LBB Zone 1 37 = NCBB Z1 - Number of Consecutive Beams Blocked Zone 1 NCBB Zone 1 38 = CBB Z1 - Central Beam Blocked Zone 1 CBB Zone 1
	5	user defined Output Function 5		88 Bit		28	7 = RLC 7 - 7th value of the Run-Length-Code 8 = RLC 8 - 8th value of the Run-Length-Code	39 = NBB Z2 - Number Beams Blocked Zone 2 NBB Zone 2 40 = FBB Z2 - First Beam Blocked Zone 2 FBB Zone 2
	6	user defined Output Function 6		80 Bit		29	9 = RLC 9 - 9th value of the Run-Length-Code 10 = RLC 10 - 10th value of the Run-Length-Code	41 = LBB Z2 - Last Beam Blocked Zone 2 LBB Zone 2

6	user defined Output Function 6	72 Bit	0	11 =	RLC 11 - 11 th value of the Run-Length-Code	42 =	NCBB Z2 - Number of Consecutive Beams Blocked Zone 2 NCBB Zone 2
7	user defined Output Function 7	72 Bit	0	12 =	RLC 12 - 12 th value of the Run-Length-Code	43 =	CBB Z2 - Central Beam Blocked Zone 2 CBB Zone 2
8	user defined Output Function 8	64 Bit	0	13 =	RLC 13 - 13 th value of the Run-Length-Code	44 =	NBB Z3 - Number Beams Blocked Zone 3 NBB Zone 3
9	user defined Output Function 9	56 Bit	0	14 =	RLC 14 - 14 th value of the Run-Length-Code	45 =	FBB Z3 - First Beam Blocked Zone 3 FBB Zone 3
10	user defined Output Function 10	48 Bit	0	15 =	RLC 15 - 15 th value of the Run-Length-Code	46 =	LBB Z3 - Last Beam Blocked Zone 3 LBB Zone 3
11	user defined Output Function 11	40 Bit	0	16 =	RLC 16 - 16 th value of the Run-Length-Code	47 =	NCBB Z3 - Number of Consecutive Beams Blocked Zone 3 NCBB Zone 3
12	user defined Output Function 12	32 Bit	0	17 =	System Status (High-Byte) and Q- Status (Low-Byte)	48 =	CBB Z3 - Central Beam Blocked Zone 3 CBB Zone 3
13	user defined Output Function 13	24 Bit	0	18 =	NBB Number Beams Blocked	49 =	NBB Z4 - Number Beams Blocked Zone 4 NBB Zone 4
14	user defined Output Function 14	16 Bit	0	19 =	NBM Number Beams Made	50 =	FBB Z4 - First Beam Blocked Zone 4 FBB Zone 4
15	user defined Output Function 15	8 Bit	0	20 =	FBB First Beam Blocked	51 =	LBB Z4 - Last Beam Blocked Zone 4 LBB Zone 4
16	user defined Output Function 16	0 Bit	0	21 =	FBM First Beam Made	52 =	NCBB Z4 - Number of Consecutive Beams Blocked Zone 4 NCBB Zone 4
				22 =	LBB Last Beam Blocked	53 =	CBB Z4 - Central Beam Blocked Zone 4 CBB Zone 4
				23 =	LBM Last Beam Made		
				24 =	NCBB Number of Consecutive Beams Blocked		
				25 =	NCBM Number of Consecutive Beams Made		
				26 =	CBB Central Beam Blocked		
				27 =	CBM Central Beam Made		
				28 =	ODI Outside Dimension		
				29 =	IDI Inside Dimension		
				30 =	Virtual Outputs (VQs)		
				31 =	Teach Quality		

**Beam Hold Mode and Function Selection**

272	110		Selection for Beams Hold Mode	Uint	8 Bit	rw	0	0 = none 1 = Blocked Beams Hold BBH 2 = Lost Beam Hold LBH	Selection for 2 different Beam Hold Functions BBH = trigger via Control Byte (PD out)
256	100		Beam Hold Function - NBB	Bool	1 Bit	rw	false	false = inactive true = active	activation for NBB = Number Beams Blocked
257	101		Beam Hold Function - NBM	Bool	1 Bit	rw	false	false = inactive true = active	activation for NBM = Number Beams Made
258	102		Beam Hold Function - FBB	Bool	1 Bit	rw	false	false = inactive true = active	activation for FBB = First Beams Blocked
259	103		Beam Hold Function - FBM	Bool	1 Bit	rw	false	false = inactive true = active	activation for FBM = First Beams Made
260	104		Beam Hold Function - LBB	Bool	1 Bit	rw	false	false = inactive true = active	activation for LBB = Last Beams Blocked
261	105		Beam Hold Function - LBM	Bool	1 Bit	rw	false	false = inactive true = active	activation for LBM = Last Beams Made
262	106		Beam Hold Function - NCBB & CBB	Bool	1 Bit	rw	false	false = inactive true = active	activation for NCBB & CBB = Number of Consecutive Blocked Beams & Central Beams Blocked
263	107		Beam Hold Function - NCBM & CBM	Bool	1 Bit	rw	false	false = inactive true = active	activation for NCBM & CBM = Number of Consecutive Made Beams & Central Beams Made
264	108		Beam Hold Function - ODI	Bool	1 Bit	rw	false	false = inactive true = active	activation for ODI = Outside Dimension
265	109		Beam Hold Function - IDI	Bool	1 Bit	rw	false	false = inactive true = active	activation for IDI = Inside Dimension
266	10A		Beam Hold Function - RLC	Bool	1 Bit	rw	false	false = inactive true = active	activation for RLC = Run Length Code
267	10B		Beam Hold Function - BS	Bool	1 Bit	rw	false	false = inactive true = active	activation for BS = Beam Status

268	10C		Beam Hold Selection for Zone - NBB	Record	8 Bit	rw			Number Beams Blocked for Zones
		1	Beam Hold Function Zone 1 - NBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 1
		2	Beam Hold Function Zone 2 - NBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 2
		3	Beam Hold Function Zone 3 - NBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 3
		4	Beam Hold Function Zone 4 - NBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 4
269	10D		Beam Hold Selection for Zone - FBB	Record	8 Bit	rw			First Beam Blocked for Zones
		1	Beam Hold Function Zone 1 - FBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 1
		2	Beam Hold Function Zone 2 - FBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 2
		3	Beam Hold Function Zone 3 - FBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 3
		4	Beam Hold Function Zone 4 - FBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 4
270	10E		Beam Hold Selection for Zone - LBB	Record	8 Bit	rw			Last Beam Blocked for Zones
		1	Beam Hold Function Zone 1 - LBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 1
		2	Beam Hold Function Zone 2 - LBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 2
		3	Beam Hold Function Zone 3 - LBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 3
		4	Beam Hold Function Zone 4 - LBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 4
271	10F		Beam Hold Selection for Zone - NCBB/CBB	Record	8 Bit	rw			Number of Consecutive Beams Blocked and Central Beam Blocked for Zones
		1	Beam Hold Function Zone 1 - NCBB/CBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 1
		2	Beam Hold Function Zone 2 - NCBB/CBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 2
		3	Beam Hold Function Zone 3 - NCBB/CBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 3
		4	Beam Hold Function Zone 4 - NCBB/CBB		1 Bit	rw	false	false = inactive true = active	activation for Zone 4
207	CF		Zone 1	Record	32 Bit	rw			
		1	lower limit		16 Bit	rw	1	1...510 = lower limit Zone 0	definition Zone 1
		2	upper limit		16 Bit	rw	1	1...510 = upper limit Zone 0	
208	D0		Zone 2	Record	32 Bit	rw			
		1	lower limit		16 Bit	rw	1	1...510 = lower limit Zone 0	definition Zone 2
		2	upper limit		16 Bit	rw	1	1...510 = upper limit Zone 0	
209	D1		Zone 3	Record	32 Bit	rw			
		1	lower limit		16 Bit	rw	1	1...510 = lower limit Zone 0	definition Zone 3
		2	upper limit		16 Bit	rw	1	1...510 = upper limit Zone 0	
210	D2		Zone 4	Record	32 Bit	rw			
		1	lower limit		16 Bit	rw	1	1...510 = lower limit Zone 0	definition Zone 4
		2	upper limit		16 Bit	rw	1	1...510 = upper limit Zone 0	
<b>Output Configuration</b>									
183	B7		Output 1 (Q1) Configuration	Record	4 Byte	rw			



								<ul style="list-style-type: none"> <li>0 = NBB - Number Beams Blocked</li> <li>1 = NBM - Number Beams Made</li> <li>2 = FBB - First Beam Blocked</li> <li>3 = FBM - First Beam Made</li> <li>4 = LBB - Last Beam Blocked</li> <li>5 = LBM - Last Beam Made</li> <li>6 = NCBB - Number of Consecutive Beams Blocked</li> <li>7 = NCBM - Number of Consecutive Beams Made</li> <li>8 = CBB - Central Beam Blocked</li> <li>9 = CBM - Central Beam Made</li> <li>10 = ODI - Outside Dimension</li> <li>11 = IDI - Inside Dimension</li> <li>12 = BNB - Beam n Blocked</li> <li>13 = BNM - Beam n Made</li> <li>14 = ALARM - as configured by SOPAS</li> <li>15 = Process Quality</li> <li>16 = Teach Quality</li> <li>17...32 = RLC-1...16 = 1st to 16th value of the Run-Length-Code</li> </ul>	for BNB (value 12) the Operator value doesn't matter. The selected beam will always be linked to the output: Beam n = Q1
		1	Operand 1	Offset	24 Bit				
		2	Operator		16 Bit		<ul style="list-style-type: none"> <li>0 = == (equal)</li> <li>1 = &gt;= (greater or equal)</li> <li>2 = &lt;= (less or equal)</li> <li>3 = != (not equal)</li> </ul>		
		3	Operand 2		0 Bit		0...510		
184	B8		<b>Output 2 (Q2) Configuration</b>	Record	4 Byte	rw			
		1	Operand 1	Offset	24 Bit		0...32 equal to Q1 configuration	for BNB (value 12) the Operator value doesn't matter. The selected beam will always be linked to the output: Beam n = Q2	
		2	Operator		16 Bit		<ul style="list-style-type: none"> <li>0 = == (equal)</li> <li>1 = &gt;= (greater or equal)</li> <li>2 = &lt;= (less or equal)</li> <li>3 = != (not equal)</li> </ul>		
		3	Operand 2		0 Bit		0...510		
185	B9		<b>Output 3 (Q3) Configuration</b>	Record	4 Byte	rw			
		1	Operand 1	Offset	24 Bit		0...32 equal to Q1 configuration	for BNB (value 12) the Operator value doesn't matter. The selected beam will always be linked to the output: Beam n = Q3	
		2	Operator		16 Bit		<ul style="list-style-type: none"> <li>0 = == (equal)</li> <li>1 = &gt;= (greater or equal)</li> <li>2 = &lt;= (less or equal)</li> <li>3 = != (not equal)</li> </ul>		
		3	Operand 2		0 Bit		0...510		
186	BA		<b>Output 4 (Q4) Configuration</b>	Record	4 Byte	rw			
		1	Operand 1	Offset	24 Bit		0...32 equal to Q1 configuration	for BNB (value 12) the Operator value doesn't matter. The selected beam will always be linked to the output:	
		2	Operator		16 Bit		<ul style="list-style-type: none"> <li>0 = == (equal)</li> <li>1 = &gt;= (greater or equal)</li> <li>2 = &lt;= (less or equal)</li> <li>3 = != (not equal)</li> </ul>		
		3	Operand 2		0 Bit		0...510		
160	A0		Q1 - Minimum Pulse Width	Uint	16 Bit	rw	0	0 ms ... 65535 ms	
161	A1		Q2 - Minimum Pulse Width	Uint	16 Bit	rw	0	0 ms ... 65535 ms	
162	A2		Q3 - Minimum Pulse Width	Uint	16 Bit	rw	0	0 ms ... 65535 ms	time extension only valid if the object detection is shorter than the selected pulse width
163	A3		Q4 - Minimum Pulse Width	Uint	16 Bit	rw	0	0 ms ... 65535 ms	

164	A4		Q5 ...Q16 - Minimum Pulse Width	UInt	16 Bit	rw	0	0 ms ... 65535 ms	
<b>System</b>									
81	51		Key Lock	UInt	8 Bit	rw	0	0 = Unlock 1 = Lock	locking the Teach-Button
74	4A		Beam Numeration	UInt	8 Bit	rw	0	0 = Beam No. 1 is at connector side 1 = Beam No. 1 is at head side	Affecting FBB/FBM & LBB/LBM
2	02		System Command	UInt	8 Bit	wo		130 = Restore Factory Setting	
12	0C		Data Storage Lock	UInt	16 Bit	rw	0	0 = access enable 2 = access locked	cloning function only valid for identical MLG types
121	79		PIN2 Configuration	UInt	8 Bit	rw	1	0 = inactive 1 = active	inactive = high resistive
122	7A		PIN5 Configuration	UInt	8 Bit	rw	1	0 = inactive 1 = active	
<b>Observation</b>									
225	E1		Process Quality	UInt	8 Bit	ro		0 ... 100 100 = best quality	Process Quality in %
224	E0		Teach Quality	UInt	8 Bit	ro		0 = Teach-in failed 100 = Teach-In succesfull	Teach-In Quality in %
40	28		Process Data Input	PD In	32 Byte	ro			cyclic process data from MLG to IO-link master
			Slot 1 Slot 2 Slot 3 Slot 4 Slot 5 Slot 6 Slot 7 Slot 8 Slot 9 Slot 10 Slot 11 Slot 12 Slot 13 Slot 14 Slot 15 Slot 16		Slot width 2 Byte			Slot content = according to selection "Process Data User Definition" (67)	
<b>Alignment</b>									
69	45		Alignment Help Enable	UInt	8 Bit	rw	1	0 = Alignment Help inactive 1 = Alignment Help Active	Process data are invalid during alignment help is active
101	65		<b>Alignment Help</b>	Record	3 Byte	ro			The signal strength values can change after Teach-In
		1	Signal Strength of the first Beam at Connector Side in %	Offset	16 Bit				max. value for best alignment
		2	Signal Strength of the first Beam at the Endcap Side in %		8 Bit				
		3	Signal Strength of the Weakest Beam in %		0 Bit				
<b>Device Properties</b>									
83	53		<b>Device Properties</b>	Record	10 Byte	ro			Shows informations about the used MLG-type



128	80	32	Service temporarily not available	Parameter is not accessible due to the current state of the device application
128	80	33	Service temporarily not available - local control	Parameter is not accessible due to an ongoing local operation at the device
128	80	34	Service temporarily not available - device control	Parameter is not accessible due to a remote triggered state of the device application
128	80	35	Access denied	Write access on a read-only parameter
128	80	48	Parameter value out of range	Written parameter value is outside its permitted value range
128	80	49	Parameter value above limit	Written parameter value is above its specified value range
128	80	50	Parameter value below limit	Written parameter value is below its specified value range
128	80	51	Parameter length overrun	Written parameter length is above its specified value range
128	80	52	Parameter length underrun	Written parameter length is below its specified value range
128	80	53	Function not available	Written command is not supported by device application
128	80	54	Function temporarily unavailable	Written command is not available due to the current state of the device application
128	80	64	Invalid parameter set	Written single parameter collides with other actual parameter settings
128	80	65	Inconsistent parameter set	Parameter inconsistencies were found at the end of block parameter transfer, device plausibility check failed
128	80	130	Application not ready	Read or write service is refused due to a temporarily unavailable application