IO-Link Data Reference Guide: TL50 Pro Select

IO-Link Data Map

This document refers to the following IODD file: Banner_Engineering-TL50RGBIOL-20201001-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	V1.0
Process Data In length	N/A
Process Data Out length	13-bytes
Bit Rate	38400 bps
Minimum cycle time	20 ms

Parameter	Value
Port class	A
SIO mode	No
Smart sensor profile	N/A
Block parameterization	Yes
Data Storage	Yes

IO-Link Process Data In (Device to Master)

Not applicable.

IO-Link Process Data Out (Master to Device)

Basic Mode			
Subindex	**Name**	**Number of Bits**	**Data Values**
1	Audible State	2	0 = Off, 1 = On, 2 = Pulsed, 3 = SOS Pulse
2	Segment 1	2	0 = Off, 1 = On, 2 = Flash, 3 = Animation
3	Segment 2	2	0 = Off, 1 = On, 2 = Flash, 3 = Animation
4	Segment 3	2	0 = Off, 1 = On, 2 = Flash, 3 = Animation
5	Segment 4	2	0 = Off, 1 = On, 2 = Flash, 3 = Animation

Basic Mode Example Process Data Out

Octet 0								
Bit Offset	103	102	101	100	99	98	97	96
Subindex	5		4		3		2	
Value	0	1	0	1	0	1	0	1
Example	Segment 4: On		Segment 3: On		Segment 2: On		Segment 1: On	

Octet 1								
Bit offset	95	94	93	92	91	90	89	88
Subindex	-	-	-	-	-	-	1	
Value							1	0
Example							Audible State: Pulsed	

Advanced Mode			
Subindex	**Name**	**Number of Bits**	**Data Values**
1	Audible State	2	0 = Off, 1 = On, 2 = Pulsed, 3 = SOS Pulse

Advanced Mode			
Subindex	**Name**	**Number of Bits**	**Data Values**
2	Segment 1 Color 1 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
3	Segment 1 Color 1	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
4	Segment 1 Pulse Pattern	3	0 = Normal, 1 = Strobe, 2 = Three Pulse, 3 = SOS, 4 = Random
5	Segment 1 Speed	2	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom
6	Segment 1 Animation Type	3	0 = Off, 1 = Steady, 2 = Flash, 3 = Two Color Flash, 4 = 50/50, 5 = Intensity Sweep
7	Segment 1 Color 2 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
8	Segment 1 Color 2	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
9	Segment 2 Color 1 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
10	Segment 2 Color 1	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
11	Segment 2 Pulse Pattern	3	0 = Normal, 1 = Strobe, 2 = Three Pulse, 3 = SOS, 4 = Random
12	Segment 2 Speed	2	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom
13	Segment 2 Animation Type	3	0 = Off, 1 = Steady, 2 = Flash, 3 = Two Color Flash, 4 = 50/50, 5 = Intensity Sweep
14	Segment 2 Color 2 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
15	Segment 2 Color 2	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
16	Segment 3 Color 1 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
17	Segment 3 Color 1	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
18	Segment 3 Pulse Pattern	3	0 = Normal, 1 = Strobe, 2 = Three Pulse, 3 = SOS, 4 = Random
19	Segment 3 Speed	2	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom
20	Segment 3 Animation Type	3	0 = Off, 1 = Steady, 2 = Flash, 3 = Two Color Flash, 4 = 50/50, 5 = Intensity Sweep
21	Segment 3 Color 2 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
22	Segment 3 Color 2	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
23	Segment 4 Color 1 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
24	Segment 4 Color 1	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
25	Segment 4 Pulse Pattern	3	0 = Normal, 1 = Strobe, 2 = Three Pulse, 3 = SOS, 4 = Random
26	Segment 4 Speed	2	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom
27	Segment 4 Animation Type	3	0 = Off, 1 = Steady, 2 = Flash, 3 = Two Color Flash, 4 = 50/50, 5 = Intensity Sweep
28	Segment 4 Color 2 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
29	Segment 4 Color 2	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2

Advanced Mode Example Process Data Out

Octet 0								
Bit offset	103	102	101	100	99	98	97	96
Subindex	-	-	-	-	-	-	1	
Value							1	0
Example							Audible State: Pulsed	

Octet 1								
Bit offset	95	94	93	92	91	90	89	88
Subindex	-	2			3			
Value		0	0	0	0	0	0	0
Example		Segment 1 Color 1 Intensity: High			Segment 1 Color 1: Green			

Octet 2								
Bit offset	87	86	85	84	83	82	81	80
Subindex	4			5		6		
Value	0	0	0	0	0	0	0	1
Example	Segment 1 Pulse Pattern: Normal			Segment 1 Speed: Medium		Segment 1 Animation Type: Steady		

Octet 3								
Bit offset	79	78	77	76	75	74	73	72
Subindex	-	7			7			
Value		0	1	0	0	0	0	0
Example		Segment 1 Color 2 Intensity: High			Segment 1 Color 2: Green			

Octet 4								
Bit offset	71	70	69	68	67	66	65	64
Subindex	-	9			10			
Value		0	0	1	0	0	0	1
Example		Segment 2 Color 1 Intensity: Low			Segment 2 Color 1: Red			

Octet 5								
Bit offset	63	62	61	60	59	58	57	56
Subindex	11			12		13		
Value	0	0	1	0	1	0	1	0
Example	Segment 2 Pulse Pattern: Strobe			Segment 2 Speed: Fast		Segment 2 Animation Type: Flash		

Octet 6								
Bit offset	55	54	53	52	51	50	49	48
Subindex	-	14			15			
Value		0	0	1	0	0	0	1
Example		Segment 2 Color 2 Intensity: Low			Segment 2 Color 2: Red			

Octet 7								
Bit offset	47	46	45	44	43	42	41	40
Subindex	-	16			17			
Value		0	1	0	0	1	0	0
Example		Segment 3 Color 1 Intensity: Medium			Segment 3 Color 1: Yellow			

Octet 8								
Bit offset	39	38	37	36	35	34	33	32
Subindex	18			19		20		
Value	0	0	0	1	0	0	1	1
Example	Segment 3 Pulse Pattern: Normal			Segment 3 Speed: Slow		Segment 3 Animation Type: Two Color Flash		

Octet 9								
Bit offset	31	30	29	28	27	26	25	24
Subindex	-	21			22			
Value		0	1	0	0	1	1	1
Example		Segment 3 Color 2 Intensity: Medium			Segment 3 Color 2: Cyan			

Octet 10								
Bit offset	23	22	21	20	19	18	17	16
Subindex	-	23			24			
Value		0	1	1	0	0	0	0
Example		Segment 4 Color 1 Intensity: Off			Segment 4 Color 1: Green			

Octet 11								
Bit offset	15	14	13	12	11	10	9	8
Subindex	25			26		27		
Value	0	0	0	0	0	1	0	0
Example	Segment 4 Pulse Pattern: Normal			Segment 4 Speed: Medium		Segment 4 Animation Type: 50/50		

Octet 12								
Bit offset	7	6	5	4	3	2	1	0
Subindex	-	28			29			
Value		0	1	1	1	1	0	1
Example		Segment 4 Color 2 Intensity: Off			Segment 4 Color 2: White			

Run Mode			
Subindex	**Name**	**Number of Bits**	**Data Values**
1	Animation	4	0 = Off, 1 = Steady, 2 = Flash, 3 = Two Color Flash, 4 = 50/50, 5 = Intensity Sweep, 6 = Scroll, 7 = Bounce, 8 = Color Spectrum, 9 = Demo
2	Color 1	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
3	Color 1 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
4	Speed	2	0 = Medium, 1 = Fast, 2 = Slow
5	Pulse Pattern	3	0 = Normal, 1 = Strobe, 2 = Three Pulse, 3 = SOS, 4 = Random
6	Color 2	4	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2
7	Color 2 Intensity	3	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom
8	Reserved	1	Reserved
9	Animation Direction	1	0 = Up, 1 = Down
10	Audible State	2	0 = Off, 1 = On, 2 = Pulsed, 3 = SOS Pulse

Run Mode Example Process Data Out

Octet 0								
Bit offset	103	102	101	100	99	98	97	96
Subindex	-	-	-	-	-	-	10	
Value							0	1
Example							Audible State: On	

Octet 1								
Bit offset	95	94	93	92	91	90	89	88
Subindex	-	-	-	-	-	-	-	9
Value								0
Example								Direction: Up

Octet 2								
Bit offset	87	86	85	84	83	82	81	80
Subindex	-	-	-	-	-	-	-	8
Value								
Example								Reserved

Octet 3								
Bit offset	79	78	77	76	75	74	73	72
Subindex	-	-	-	-	-	7		
Value						0	0	0
Example						Color 2 Intensity: High		

Octet 4								
Bit offset	71	70	69	68	67	66	65	64
Subindex	-	-	-	-	6			
Value					1	0	0	1
Example					Color 2: Blue			

Octet 5								
Bit offset	63	62	61	60	59	58	57	56
Subindex	-	-	-	-	-	5		
Value						0	0	0
Example						Pulse Pattern: Normal		

Octet 6								
Bit offset	55	54	53	52	51	50	49	48
Subindex	-	-	-	-	-	-	4	
Value							0	1
Example							Speed: Fast	

Octet 7								
Bit offset	47	46	45	44	43	42	41	40
Subindex	-	-	-	-	-	3		
Value						0	0	0
Example						Color 2 Intensity: High		

Octet 8								
Bit offset	39	38	37	36	35	34	33	32
Subindex	-	-	-	-	2			
Value					0	0	0	1
Example					Color 2: Red			

Octet 9								
Bit offset	31	30	29	28	27	26	25	24
Subindex	-	-	-	-	1			
Value					0	1	0	0
Example					Animation: 50/50			

Level Mode			
Subindex	**Name**	**Number of Bits**	**Data Values**
1	Audible State	2	0 = Off, 1 = On, 2 = Pulsed, 3 = SOS Pulse
2	Level Mode Value	16	0 - 65,535

Level Mode Example Process Data Out

Octet 0								
Bit offset	103	102	101	100	99	98	97	96
Subindex	2							
Value	0	0	0	0	0	0	0	0
Example	Level Mode Value: 92							

Octet 1								
Bit offset	95	94	93	92	91	90	89	88
Subindex	2							
Value	0	1	0	1	1	1	0	0
Example	Level Mode Value: 92							

Octet 2								
Bit offset	87	86	85	84	83	82	81	80
Subindex	-	-	-	-	-	-	-	-

Octet 3								
Bit offset	79	78	77	76	75	74	73	72
Subindex	-	-	-	-	-	-	1	
Value							1	0
Example							Audible State: Pulsed	

Parameters Set Using IO-Link

These parameters can be read from and/or written to an IO-Link model of the TL50 Pro Select.

Index	Subindex	Name	Length	Value Range	Default	Access Rights	Data Storage?	AOI
0	1-16	Direct Parameter Page 1 (incl. Vendor ID & Device ID)				rw		
1	1-16	Direct Parameters Page 2				rw		
2		Standard Command		130 = Restore Factory Settings		wo		
3-11								
12		**Device Access Locks**						
	0	Parameter (write) Access Lock	Boolean	0 = off, 1 = on	0	rw	y	
	1	Data Storage Lock	Boolean	0 = off, 1 = on	0	rw	y	
	2	Local Parameterization Lock	Boolean	0 = off, 1 = on		rw	y	

Index	Subindex	Name	Length	Value Range	Default	Access Rights	Data Storage?	AOI
	3	Local User Interface Lock	Boolean	0 = off, 1 = on		rw	y	
13-15								
16		Vendor Name string		Banner Engineering Corporation		ro		
17		Vendor Text string		More Sensors. More Solutions.		ro		
18		Product Name string		TL50		ro		
19		Product ID string		TL50PS*K*Q		ro		
20		Product Text string		TL50 Pro Select with IO-Link		ro		
21		Serial Number				ro		
22		Hardware Revision				ro		
23		Firmware Version				ro		
24		App Specific Tag (user defined)				rw	y	
25-35								
36		Device Status	8-bit uinteger	0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure, 5..255 = Reserved		ro		
37	1-6	Detailed Device Status	Array[6] of 3-octet			ro		
38-63								
64		Operating Mode Selection	2-bit uinteger	0 = Basic Segment Mode, 1 = Advanced Segment Mode, 2 = Run Mode, 3 = Level Mode	1	rw	y	
65		**Segment 1 Basic Mode Parameters**						
	1	Basic Color	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	2	Basic Speed	2-bit uinteger	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom	0	rw	y	
	3	Animation Type	3-bit uinteger	0 = Off, 1 = Steady, 2 = Flash, 3 = Two Color Flash, 4 = 50/50, 5 = Intensity Sweep	0	rw	y	
	4	Animation Color 1	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	5	Animation Color 1 Intensity	3-bit uinteger	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom	0	rw	y	
	6	Animation Speed	2-bit uinteger	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom	0	rw	y	
	7	Animation Pattern	3-bit uinteger	0 = Normal, 1 = Strobe, 2 = Three Pulse, 3 = SOS, 4 = Random	0	rw	y	
	8	Animation Color 2	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	9	Animation Color 2 Intensity	3-bit uinteger	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom	0	rw	y	
66		Segment 2 Basic Mode Parameters (same structure as Index 65)						
67		Segment 3 Basic Mode Parameters (same structure as Index 65)						
68		Segment 4 Basic Mode Parameters (same structure as Index 65)						
75		**Additional Settings** (subindex access supported)						
	1	Custom Intensity (0 - 100%)	8-bit uinteger	0-100	100	rw	y	
	2	Custom Flash Rate (0.5 - 20)	8-bit uinteger	0.5-20	15	rw	y	
	3	Numbers of Segment for Scroll and Bounce	8-bit uinteger	0-10	2	rw	y	
	4	Restrict To Gamut	Boolean	0=Off, 1=On	0	rw	y	

Index	Subindex	Name	Length	Value Range	Default	Access Rights	Data Storage?	AOI
	5	Reserved	7-bit uinteger		0			
76		**Custom 1** (subindex access supported)						
	1	Red	8-bit uinteger	0-255	255	rw	y	
	2	Green	8-bit uinteger	0-255	255	rw	y	
	3	Blue	8-bit uinteger	0-255	255	rw	y	
77		**Custom 2** (subindex access supported)						
	1	Red	8-bit uinteger	0-255	255	rw	y	
	2	Green	8-bit uinteger	0-255	255	rw	y	
	3	Blue	8-bit uinteger	0-255	255	rw	y	
78		**Level Mode Configuration** (subindex access supported)						
	1	Full Scale Value	16-bit uinteger		100	rw	y	
	2	Base Color	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	3	Base Intensity	3-bit uinteger	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom	0	rw	y	
	4	Base State	Boolean	0 = Steady, 1 = Flashing	0	rw	y	
	5	Threshold Type	2-bit uinteger	0 = None, 1 = Low, 2 = High, 3 = High and Low	0	rw	y	
	6	Low Threshold Value	16-bit uinteger		20	rw	y	
	7	Low Threshold Color	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	8	Low Threshold Intensity	3-bit uinteger	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom	0	rw	y	
	9	Low Threshold State	Boolean	0 = Steady, 1 = Flashing	0	rw	y	
	10	High Threshold Value	16-bit uinteger		80	rw	y	
	11	High Threshold Color	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	12	High Threshold Intensity	3-bit uinteger	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom	0	rw	y	
	13	High Threshold State	8-bit uinteger	0 = Steady, 1 = Flashing	0	rw	y	
	14	Flash Rate	2-bit uinteger	0 = Medium, 1 = Fast, 2 = Slow, 3 = Custom	0	rw	y	
	15	Dominance	Boolean	0 = Non-Dominant, 1 = Dominant	0	rw	y	
	16	Subsegment Style	2-bit uinteger	0 = Steady, 1 = Flashing, 2 = Analog	2	rw	y	
	17	Background Color	4-bit uinteger	0 = Green, 1 = Red, 2 = Orange, 3 = Amber, 4 = Yellow, 5 = Lime Green, 6 = Spring Green, 7 = Cyan, 8 = Sky Blue, 9 = Blue, 10 = Violet, 11 = Magenta, 12 = Rose, 13 = White, 14 = Custom 1, 15 = Custom 2	0	rw	y	
	18	Background Intensity	3-bit uinteger	0 = High, 1 = Low, 2 = Medium, 3 = Off, 4 = Custom	3	rw	y	
	19	Orientation	Boolean	0 = Standard Orientation, 1 = Upside Down	0	rw	y	

IO-Link Events

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

Event Types		
Code	**Type**	**Description**
0 (0x0000)	Notification	No malfunction
20480 (0x5000)	Error	Device hardware fault/Device exchange
20753 (0x5111)	Error	Primary supply voltage under-run/Check tolerance of power supply

Error Types			
Code	**Additional Code**	**Name**	**Description**
128 (0x80)	0 (0x00)	Device application error - no details	Service has been refused by the device application and no detailed information of the incident is available
	17 (0x11)	Index not available	Access occurs to a not existing device
	18 (0x12)	Subindex not available	Access occurs to a not existing subindex
	32 (0x20)	Service temporarily not available	Parameter is not accessible because of the current state of the device application
	35 (0x23)	Access denied	Write access on a read-only parameter
	48 (0x30)	Parameter value out of range	Written parameter value is outside its permitted value range
	49 (0x31)	Parameter value above limit	Written parameter value is above its specific value limit
	51 (0x33)	Parameter length overrun	Written parameter length is above its predefined length
	52 (0x34)	Parameter length underrun	Written parameter length is below its predefined length
	53 (0x35)	Function not available	Written command is not supported by the device application
	54 (0x36)	Function temporarily unavailable	Written command is not available because of the current state of the device application
	65 (0x41)	Inconsistent parameter set	Parameter inconsistencies were found at the end of the block parameter transfer, device plausibility check failed