![HAUBER ELEKTRONIK]

IO-Link Interface Specification

Vibration sensor
Series HE055

IO-Link

1 General Information

Valid for Firmware Version FW01.04

1.1 Device Identification

Vendor ID	1475 (0x05C3)
Device ID	2000 (0x07D0)

1.3 Features

Data storage	Yes
Block parameterization	Yes

1.2 Communication Characteristics

IO-Link revision	V1.1 (specification V1.1.3)
IO-Link backward compatibility	n/a
Data transmission rate	COM3 (230.4 kbit/s)
Min. cycle time	3,8 ms
Process data input	24 byte
Process data output	1 byte
SIO mode support	yes
Compatible master port type	Class A, Class B (see NOTE)

1.4 Device Profile

Binary Large Object - BLOB	48 (0x0030)
Identification and Diagnosis – I&D	16384 (0x4000)
Function Class - Product URI	33026 (0x8102)

NOTE: For use at IO-Link master port Class B, use 3-pole adapter or 3-wire cable.

2 Connection

Plug, M12, 4-pole	
	Pin 1: L+ 18…30 V DC Pin 2: Out 2 4…20 mA or switching output Pin 3: L- 0V / GND Pin 4: Out 1 IO-Link or switching output

3   Process Data Input

.sub	Name	Data type	Length (byte)	Bit-offset	Value	Unit	Comment
	PD Input (read only)	**record**	**24**				
.1	MDC1 vRMS	int16		176	0 .. 25600 32764: *No Measurement Data*	0.01 mm/s	Indicates the current measurement value of measurement data channel 1 - vRMS.
.2	MDC1 Scale	int8		168	-2		Shows the multiplier for the measurement value of measurement data channel 1 - vRMS. Multiplier: 10^(scale).
.3	SSC1.1 Switching Signal	bool		160	0: Low 1: High		Indicates the current status of the switching signal 1 for measurement data channel 1 - vRMS.
.4	SSC1.2 Switching Signal	bool		161	0: Low 1: High		Indicates the current status of the switching signal 2 for measurement data channel 1 - vRMS.
.11	MDC2 aRMS	int16		144	0 .. 4800 32764: *No Measurement Data*	0.01 g	Indicates the current measurement value of measurement data channel 2 - aRMS.
.12	MDC2 Scale	int8		136	-2		Shows the multiplier for the measurement value of measurement data channel 2 - aRMS. Multiplier: 10^(scale).
.13	SSC2.1 Switching Signal	bool		128	0: Low 1: High		Indicates the current status of the switching signal 1 for measurement data channel 2 - aRMS.
.14	SSC2.2 Switching Signal	bool		129	0: Low 1: High		Indicates the current status of the switching signal 2 for measurement data channel 2 - aRMS.
.21	MDC3 aPeak	int16		112	0 .. 4800 32764: No Measurement Data	0.01 g	Indicates the current measurement value of measurement data channel 3 - aPeak.
.22	MDC3 Scale	int8		104	-2		Shows the multiplier for the measurement value of measurement data channel 3 - aPeak. Multiplier: 10^(scale).
.23	SSC3.1 Switching Signal	bool		96	0: Low 1: High		Indicates the current status of the switching signal 1 for measurement data channel 3 - aPeak.
.24	SSC3.2 Switching Signal	bool		97	0: Low 1: High		Indicates the current status of the switching signal 2 for measurement data channel 3 - aPeak.
.31	MDC4 Temperature	int16		80	-50 .. 100 32764: *No Measurement Data*	°C	Indicates the current measurement value of measurement data channel 4 - Temperature.
.32	MDC4 Scale	int8		72	0		Shows the multiplier for the measurement value of measurement data channel 4 - Temperature. Multiplier: 10^(scale).
.33	SSC4.1 Switching Signal	bool		64	0: Low 1: High		Indicates the current status of the switching signal 1 for measurement data channel 4 – Temperature.
.34	SSC4.2 Switching Signal	bool		65	0: Low 1: High		Indicates the current status of the switching signal 2 for measurement data channel 4 - Temperature.
.37	DSC.2 Device Status	uint4		68	0 1 2 3 4		Indicator of the current device condition and diagnosis state. *Device is ok* *Maintenance required* *Out of specification* *Functional check* *Failure*
.41	MDC5 Crest	int16		48	0 .. 10000 32764: No Measurement Data	-	Indicates the current measurement value of measurement data channel 5 - Crest.
.42	MDC5 Scale	int8		40	-2		Shows the multiplier for the measurement value of measurement data channel 5 - Crest. Multiplier: 10^(scale).
.43	SSC5.1 Switching Signal	bool		32	0: Low 1: High		Indicates the current status of the switching signal 1 for measurement data channel 5 - Crest.
.44	SSC5.2 Switching Signal	bool		33	0: Low 1: High		Indicates the current status of the switching signal 2 for measurement data channel 5 - Crest.
.51	MDC6 Bearing	int16		16	0 .. 500 32764: No Measurement Data	-	Indicates the current measurement value of measurement data channel 6 - Bearing.
.52	MDC6 Scale	int8		8	-2		Shows the multiplier for the measurement value of measurement data channel 6 - Bearing. Multiplier: 10^(scale).
.53	SSC6.1 Switching Signal	bool		0	0: Low 1: High		Indicates the current status of the switching signal 1 for measurement data channel 6 - Bearing.
.54	SSC6.2 Switching Signal	bool		1	0: Low 1: High		Indicates the current status of the switching signal 2 for measurement data channel 6 - Bearing.
.57	DSC.6 Bearing Condition	uint2		4	0 1 2 3		Shows a 4-level diagnosis information for the currently detected vibration condition at bearings as defined in DIN ISO 13373-3. *Exceptional low* *Normal* *Warning* *Alarm*

.58	DSC 3 BLOB Status	uint3		37	0 1 2 3 4			Shows the status of the BLOB State Machine *Idle / Ready* *Recording* *Recording finished / wait for transmition,* *Transmitting,* *Preparing (=Deleting)*

4   Process Data Output

.sub	Name	Data type	Length (byte)	Bit-offset	Value	Unit	Comment
.0	PDout.SSC1 Blob Trigger	bool		0	0: Low 1: High		When Changing from 0 to 1 dynamic data record (BLOB) will be triggered

5   Parameter Data

5.1   Identification

Index	Parameter	Access	Data type	Length	Default	Description
16 (0x10)	Vendor Name	R	string	32	HAUBER-Elektronik GmbH	The vendor name that is assigned to a Vendor ID.
17 (0x11)	Vendor Text	R	string	32	Your partner for condition monitoring	Additional information about the vendor.
18 (0x12)	Product Name	R	string	32	HE055	Complete product name.
19 (0x13)	Product ID	R	string	32	HE055	Vendor-specific product or type identification (e.g., item number or model number).
20 (0x14)	Product Text	R	string	32	Vibration sensor type HE055 with IO-Link	Additional product information for the device.
21 (0x15)	Serial Number	R	string	16		Unique, vendor-specific identifier of the individual device.
22 (0x16)	Hardware Revision	R	string	8	HW**.**	Unique, vendor-specific identifier of the hardware revision of the individual device.
23 (0x17)	Firmware Revision	R	string	8	FW**.**	Unique, vendor-specific identifier of the firmware revision of the individual device.
24 (0x18)	Application Specific Tag	R/W	string	32	***	Possibility to mark a device with user- or application-specific information.
25 (0x19)	Function Tag	R/W	string	32	***	Possibility to mark a device with function-specific information.
26 (0x1A)	Location Tag	R/W	string	32	***	Possibility to mark a device with location-specific information.
27 (0x1B)	Product URI	R	string	100	https://hauber-elektronik.de	Vendor specific URI for additional information about the product.

5.2   Diagnosis Parameters

Index .sub	Parameter	Access	Data type	Length [byte]	Bit Offset	Value	Unit	Description
36 (0x24)	**Device Status**	R	uint8	1				Synchronous to pending events and Detailed Device Status.
37 (0x25)	**Detailed Device Status**	R	array of octet-str[3]	no. of events * 3				Product specific number of events excluding test incident events.
176 (0xB0)	**Device Characteristics**	R	record	6				Shows relevant key characteristics of the device for use in applications.
.1	Measurement Range		int16		32	0 .. 256 mm/s / 0 .. 48 g (peak)		Shows the maximum measurement range for vibration measurements as specified.
.2	Measurement Bandwidth		int16		16	1 .. 1000 Hz		Shows the maximum frequency range for vibration measurements as specified.
.3	Supply Current Requirement		uint16		0	320	mA	Shows the maximum specified supply current for the device excluding load.
177 (0xB1)	**MDC1 Descriptor vRMS**	R	record	11				Descriptor for the characteristic of the measurement data channel 1 - vRMS.
.1	Lower Value		int32		56	0		Shows the lower value of measurement range.
.2	Upper Value		int32		24	25600		Shows the upper value of measurement range.
.3	Unit Code		uint16		8	1061		Shows the unique code for the physical unit.
.4	Scale		int8		0	-2		Shows the multiplier for measurement value - 10^(scale).

Index .sub	Parameter	Ac-cess	Data type	Length [byte]	Bit Offset	Value	Unit	Description
178 (0xB2)	**MDC2 Descriptor aRMS**	R	record	11				Descriptor for the characteristic of the measurement data channel 2 - aRMS.
.1	Lower Value		int32		56	0		Shows the lower value of measurement range.
.2	Upper Value		int32		24	4800		Shows the upper value of measurement range.
.3	Unit Code		uint16		8	1658		Shows the unique code for the physical unit.
.4	Scale		int8		0	-2		Shows the multiplier for measurement value - 10^(scale).

Index .sub	Parameter	Ac-cess	Data type	Length [byte]	Bit Offset	Value	Unit	Description
178 (0xB2)	**MDC2 Descriptor aRMS**							

Index .sub	Parameter	Ac-cess	Data type	Length [byte]	Bit Offset	Value	Unit	Description
179 (0xB3)	**MDC3 Descriptor aPeak**	R	record	11				Descriptor for the characteristic of the measurement data channel 3 - aPeak.
.1	Lower Value		int32		56	0		Shows the lower value of measurement range.
.2	Upper Value		int32		24	4800		Shows the upper value of measurement range.
.3	Unit Code		uint16		8	1658		Shows the unique code for the physical unit.
.4	Scale		int8		0	-2		Shows the multiplier for measurement value - 10^(scale).
180 (0xB4)	**MDC4 Descriptor Temperature**	R	record	11				Descriptor for the characteristic of the measurement data channel 4 - Temperature.
.1	Lower Value		int32		56	-50		Shows the lower value of measurement range.
.2	Upper Value		int32		24	100		Shows the upper value of measurement range.
.3	Unit Code		uint16		8	1001		Shows the unique code for the physical unit.
.4	Scale		int8		0	0		Shows the multiplier for measurement value - 10^(scale).
181 (0xB5)	**MDC5 Descriptor Crest**	R	record	11				Descriptor for the characteristic of the measurement data channel 5 - Crest.
.1	Lower Value		int32		56	0		Shows the lower value of measurement range.
.2	Upper Value		int32		24	10000		Shows the upper value of measurement range.
.3	Unit Code		uint16		8	1997		Shows the unique code for the physical unit.
.4	Scale		int8		0	-2		Shows the multiplier for measurement value - 10^(scale).
182 (0xB6)	**MDC6 Descriptor** Bearing	R	record	11				Descriptor for the characteristic of the measurement data channel 6 - Bearing.
.1	Lower Value		int32		56	0		Shows the lower value of measurement range.
.2	Upper Value		int32		24	500		Shows the upper value of measurement range.
.3	Unit Code		uint16		8	1997		Shows the unique code for the physical unit.
.4	Scale		int8		0	-2		Shows the multiplier for measurement value - 10^(scale).
224 (0xE0)	**Operating hours**	R	uint32	4		$0 .. 2^{32}-1$	h	Shows the overall hours of operation since initial commissioning. (updated every 0.25h, resolution 1h)
225 (0xE1)	**Temperature Indicator**	R	uint8	1		0 1 2 3 4		Indicates the operation at critical ambient temperatures or excess of specification limits. *Operating condition OK* *Close to upper limit* *Upper limit exceeded* *Close to lower limit* *Lower limit exceeded*
226 (0xE2)	**Temperature Monitor**	R	record	9				Contains parameters showing current and past conditions of temperature exposure since initial commissioning.
.1	OVT Operating Hours		uint32		40	$0 .. 2^{32}-1$	h	Shows the overall hours of operation above the specified temperature range since initial commissioning. (updated every 0.25h, resolution 1h)
.2	OVT Exceeded Counter		uint16		24	0 .. 65535		Shows the number of number of transitions to operating temperatures above the specified temperature range since initial commissioning. (incremented on each OVT threshold transition, pos. slope only)
.3	Max. Temperature		int8		16	-50 .. +100	°C	Shows the maximum observed temperature since initial commissioning. (resolution 1K)
.4	Min. Temperature		int8		8	-50 .. +100	°C	Shows the minimum observed temperature since initial commissioning. (resolution 1K)
.5	Operating Temperature		int8		0	-50 .. +100	°C	Shows the currently measured ambient temperature. (resolution 1K, tolerance +/-5K)
227 (0xE3)	**Power Monitor**	R	record	12				Contains parameters showing current and past conditions of power cycles since initial commissioning.
.1	Power Cycles		uint32		96	$0 .. 2^{32}-1$		Shows the number of power cycles since initial commissioning. (incremented on power-on)
.2	Maximum Uptime		uint32		64	$0 .. 2^{32}-1$	s	Shows the maximum observed powered operating time between power cycles in seconds since initial commissioning. (updated every 0.25 hours, resolution 1 second)
.3	Average Uptime		uint32		32	$0 .. 2^{32}-1$	s	Shows the average observed powered operating time between power cycles in seconds since initial commissioning. (updated every 0.25 hours, resolution 1 second)
.4	Uptime		uint32		0	$0 .. 2^{32}-1$	s	Shows the current operating time since the last power cycle in seconds. (resolution 1 second)

5.3 Maintenance Functions

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description
208 (0xD0)	Maintenance Config vRMS	R/W	record	8					
.1	Overrun Threshold		int32		32	0	0: Disabled 1 .. 25600	0.01 mm/s	Defines the threshold for triggering of vRMS maintenance monitoring.
.2	Incident Count Limit		uint16		16	0	0: Disabled 1 .. 100000		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
.3	Incident Operating Limit		uint16		0		0: Disabled 1 .. 10000	h	Defines the limit for the accumulated operating time in hours above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
209 (0xD1)	Maintenance Config aRMS	R/W	record	8					
.1	Overrun Threshold		int32		32	0	0: Disabled 1 .. 4800	0.01 g	Defines the threshold for triggering of aRMS maintenance monitoring.
.2	Incident Count Limit		uint16		16	0	0: Disabled 1 .. 100000		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
.3	Incident Operating Limit		uint16		0		0: Disabled 1 .. 10000	h	Defines the limit for the accumulated operating time in hours above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
210 (0xD2)	Maintenance Config aPeak	R/W	record	8					
.1	Overrun Threshold		int32		32	0	0: Disabled 1 .. 4800	0.01 g	Defines the threshold for triggering of aPeak maintenance monitoring.
.2	Incident Count Limit		uint16		16	0	0: Disabled 1 .. 100000		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
.3	Incident Operating Limit		uint16		0		0: Disabled 1 .. 10000	h	Defines the limit for the accumulated operating time in hours above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
211 (0xD3)	Maintenance Config Temperature	R/W	record	8					
.1	Overrun Threshold		int32		32	0	0: Disabled 1 .. 100	°C	Defines the threshold for triggering of temperature maintenance monitoring.
.2	Incident Count Limit		uint16		16	0	0: Disabled 1 .. 100000		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
.3	Incident Operating Limit		uint16		0	0	0: Disabled 1 .. 10000	h	Defines the limit for the accumulated operating time in hours above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
212 (0xD4)	Maintenance Config Crest	R/W	record	8					
.1	Overrun Threshold		int32		32	0	0: Disabled 1 .. 10000		Defines the threshold for triggering of temperature maintenance monitoring.
.2	Incident Count Limit		uint16		16	0	0: Disabled 1 .. 100000		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
.3	Incident Operating Limit		uint16		0	0	0: Disabled 1 .. 10000	h	Defines the limit for the accumulated operating time in hours above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
214 (0xD6)	Maintenance Config Bearing	R/W	record	8					
.1	Overrun Threshold		int32		32	0	0: Disabled 1 .. 10000		Defines the threshold for triggering of temperature maintenance monitoring.
.2	Incident Count Limit		uint16		16	0	0: Disabled 1 .. 100000		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
.3	Incident Operating Limit		uint16		0	0	0: Disabled 1 .. 10000	h	Defines the limit for the accumulated operating time in hours above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.
213 (0xD5)	Maintenance Config Operating Time	R/W	uint16	2		0		h	Defines the limit for the accumulated operating time for a planned maintenance cycle in hours. The according maintenance alarm will be set, if this limit is exceeded.
216 (0xD8)	Maintenance Monitor vRMS	R	record	6					
.1	Overrun Time		uint32		16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset. (updated every 0.25h, resolution 1h)

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description
.2	Overrun Count		uint16		0		0 .. 65535		Shows the number of transitions above the configured threshold since the last maintenance reset. (no overflow)
217 (0xD9)	**Maintenance Monitor aRMS**	R	record	6					
.1	Overrun Time		uint32		16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset. (updated every 0.25h, resolution 1h)
.2	Overrun Count		uint16		0		0 .. 65535		Shows the number of transitions above the configured threshold since the last maintenance reset. (no overflow)
218 (0xDA)	**Maintenance Monitor aPeak**	R	record	6					
.1	Overrun Time		uint32		16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset. (updated every 0.25h, resolution 1h)
.2	Overrun Count		uint16		0		0 .. 65535		Shows the number of transitions above the configured threshold since the last maintenance reset. (no overflow)
219 (0xDB)	**Maintenance Monitor Temperature**	R	record	6					
.1	Overrun Time		uint32		16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset. (updated every 0.25h, resolution 1h)
.2	Overrun Count		uint16		0		0 .. 65535		Shows the number of transitions above the configured threshold since the last maintenance reset. (no overflow)
220 (0xDC)	**Maintenance Monitor Crest**	R	record	6					
.1	Overrun Time		uint32		16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset. (updated every 0.25h, resolution 1h)
.2	Overrun Count		uint16		0		0 .. 65535		Shows the number of transitions above the configured threshold since the last maintenance reset. (no overflow)
222 (0xDE)	**Maintenance Monitor Bearing**	R	record	6					
.1	Overrun Time		uint32		16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset. (updated every 0.25h, resolution 1h)
.2	Overrun Count		uint16		0		0 .. 65535		Shows the number of transitions above the configured threshold since the last maintenance reset. (no overflow)
221 (0xDD)	**Time Since Maintenance**	R	uint32	4			$0 .. 2^{32}-1$	h	Shows the time in powered operation since the last maintenance reset. (updated every 0.25h, resolution 1h, backward counting, no underflow)
223 (0xDF)	**Maintenance Status Diag**	R	record	2					Shows if which Incident Limit is exceeded.
.1	vRMS Exceeded Time Alarm		bool		0	0	0: Inactive 1: Active		Shows if vRMS Incident Operating Limit is exceeded.
.2	vRMS Exceeded Count Alarm		bool		1	0	0: Inactive 1: Active		Shows if vRMS Incident Count Limit is exceeded.
.3	aRMS Exceeded Time Alarm		bool		2	0	0: Inactive 1: Active		Shows if aRMS Incident Operating Limit is exceeded.
.4	aRMS Exceeded Count Alarm		bool		3	0	0: Inactive 1: Active		Shows if aRMS Incident Count Limit is exceeded.
.5	aPeak Exceeded Time Alarm		bool		4	0	0: Inactive 1: Active		Shows if aPeak Incident Operating Limit is exceeded.
.6	aPeak Exceeded Count Alarm		bool		5	0	0: Inactive 1: Active		Shows if aPeak Incident Count Limit is exceeded.
.7	Temperature Exceeded Time Alarm		bool		6	0	0: Inactive 1: Active		Shows if Temperature Incident Operating Limit is exceeded.
.8	Temperature Exceeded Count Alarm		bool		7	0	0: Inactive 1: Active		Shows if Temperature Incident Count Limit is exceeded.

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description
.9	Crest Exceeded Time Alarm		bool		8	0	0: Inactive 1: Active		Shows if Crest Incident Operating Limit is exceeded.
.10	Crest Exceeded Count Alarm		bool		9	0	0: Inactive 1: Active		Shows if Crest Incident Count Limit is exceeded.
.11	Bearing Exceeded Time Alarm		bool		10	0	0: Inactive 1: Active		Shows if Bearing Incident Operating Limit is exceeded.
.12	Bearing Exceeded Count Alarm		bool		11	0	0: Inactive 1: Active		Shows if Bearing Incident Count Limit is exceeded.
.16	Maintenance Cycle Exceeded Alarm		bool		15	0	0: Inactive 1: Active		Shows if operating time for a planned maintenance cycle Incident Limit is exceeded.

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description

5.4 Observation

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description
236 (0xEC)	**Observation Data**	R	record						Provides a set of relevant data suitable for observation purposes.
.1	Measurement Value - vRMS		int16		200			0.01 mm/s	Indicates the current measurement value of measurement data channel 1 - vRMS.
.2	SSC1.1		uint8		192		0 1		Indicates the current status of the switching signal 1.1 *Low* *High*
.3	SSC1.2		uint8		184		0 1		Indicates the current status of the switching signal 1.2 *Low* *High*
.4	Measurement Value - aRMS		int16		168			0.01 g	Indicates the current measurement value of measurement data channel 2 - aRMS.
.5	SSC2.1		uint8		160		0 1		Indicates the current status of the switching signal 2.1 *Low* *High*
.6	SSC2.2		uint8		152		0 1		Indicates the current status of the switching signal 2.2 *Low* *High*
.7	Measurement Value - aPeak		int16		136			0.01 g	Indicates the current measurement value of measurement data channel 3 – aPeak
.8	SSC3.1		uint8		128		0 1		Indicates the current status of the switching signal 3.1 *Low* *High*
.9	SSC3.2		uint8		120		0 1		Indicates the current status of the switching signal 3.2 *Low* *High*
.10	Measurement Value - Temperature		int16		104			°C	Indicates the current measurement value of measurement data channel 4 – Temperature
.11	SSC4.1		uint8		96		0 1		Indicates the current status of the switching signal 4.1 *Low* *High*
.12	SSC4.2		uint8		88		0 1		Indicates the current status of the switching signal 4.2 *Low* *High*
.13	Maintenance Warning		uint8		80		0 1		Indicates that at least one of the configured maintenance limits has been exceeded. *Low* *High*
.14	Measurement Value - Crest		int16		64			°C	Indicates the current measurement value of measurement data channel 5 - Crest
.15	SSC5.1		uint8		56		0 1		Indicates the current status of the switching signal 5.1 Low High
.16	SSC5.2		uint8		48		0 1		Indicates the current status of the switching signal 5.2 *Low* *High*
17	Blob Status		uint3		40		0 1 2 3 4		State of current active BLOB 0 = Idle / Ready 1 = Recording 2 = Recording finished / wait for transmition 3 = Transmitting 4 = Preparing (=Deleting)
.18	Measurement Value - Bearing		int16		24			°C	Indicates the current measurement value of measurement data channel 6 – Bearing
.19	SSC6.1		uint8		16		0 1		Indicates the current status of the switching signal 6.1 *Low* *High*
.20	SSC6.2		uint8		8		0 1		Indicates the current status of the switching signal 6.2 *Low* *High*
.21	Bearing Condition		uint8		0		0 1 2 3		Shows a 4-level diagnosis information for the currently detected vibration condition at bearings as defined in DIN ISO 13373-3. *1 - Exceptional low* *2 - Normal* *3 - Warning* *4 - Alarm*
254 (0xFE)	**Test Incident Index**	R/W	uint8	1		0			1s/50ms rule applies see events -> Test events

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description
							0		*All incidents inactive*
							1		*Warning incident 1 active, 2 no change*
							2		*Warning incident 1 inactive, 2 no change*
							3		*Error incident 2 active, 1 no change*
							4		*Error incident 2 inactive, 1 no change*
							5		*Warning incident 1 + Error incident 2 active*

5.5 Configuration Parameters

Index .sub	Parameter	Access	Data type	Length	Bit Offset	Default	Value	Unit	Description
64 (0x40)	**SSC1.1 Param vRMS**	R/W	record	8					Defines the setpoint values for switching signal channel 1 for the vRMS measurement channel.
.1	SP1		int32		32	0	0 .. 12800	0.01 mm/s	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	0	0 .. 12800	0.01 mm/s	Defines the setpoint 2 value for the switching signal channel.
65 (0x41)	**SSC1.1 Config vRMS**	R/W	record	6					Defines the configuration parameter for switching signal channel 1 for the vRMS measurement channel.
.1	Logic		uint8		40	0	0 / 1		Defines the logical representation of the switching signal SSC in the process data. *High active* / *Low active*
.2	Mode		uint8		32	0	0 / 1 / 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* / *Single point* / *Window*
.3	Hyst		int32		0	0	0		Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting. *Fix*
66 (0x42)	**SSC1.2 Param vRMS**	R/W	record	8					Defines the setpoint values for switching signal channel 2 for the vRMS measurement channel.
.1	SP1		int32		32	0	0 .. 12800	0.01 mm/s	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	0	0 .. 12800	0.01 mm/s	Defines the setpoint 2 value for the switching signal channel.
67 (0x43)	**SSC1.2 Config vRMS**	R/W	record	6					Defines the configuration parameter for switching signal channel 2 for the vRMS measurement channel.
.1	Logic		uint8		40	0	0 / 1		Defines the logical representation of the switching signal SSC in the process data. *High active* / *Low active*
.2	Mode		uint8		32	0	0 / 1 / 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* / *Single point* / *Window*
.3	Hyst		int32		0	0	0		Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting. *Fix*
68 (0x44)	**SSC2.1 Param aRMS**	R/W	record	8					Defines the setpoint values for switching signal channel 1 for the aRMS measurement channel.
.1	SP1		int32		32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel.
69 (0x45)	**SSC2.1 Config aRMS**	R/W	record	6					Defines the configuration parameter for switching signal channel 1 for the aRMS measurement channel.
.1	Logic		uint8		40	0	0 / 1		Defines the logical representation of the switching signal SSC in the process data. *High active* / *Low active*
.2	Mode		uint8		32	0	0 / 1 / 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* / *Single point* / *Window*
.3	Hyst		int32		0	0	0		Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting. *Fix*
70 (0x46)	**SSC2.2 Param aRMS**	R/W	record	8					Defines the setpoint values for switching signal channel 2 for the aRMS measurement channel.
.1	SP1		int32		32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel.

.2	SP2		int32		0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel.
(0x47)	**SSC2.2 Config aRMS**	R/W	record	6					Defines the configuration parameter for switching signal channel 2 for the aRMS measurement channel.
.1	Logic		uint8		40	0			Defines the logical representation of the switching signal SSC in the process data.
						0 1			*High active* *Low active*
.2	Mode		uint8		32	0			Defines the evaluation mode for the switching signal SSC.
						0 1 2			*Deactivated (constant)* *Single point* *Window*
.3	Hyst		int32		0	0			Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.
						0			*Fix*
72 (0x48)	**SSC3.1 Param aPeak**	R/W	record	8					Defines the setpoint values for switching signal channel 1 for the aPeak measurement channel.
.1	SP1		int32		32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel.
73 (0x49)	**SSC3.1 Config aPeak**	R/W	record	6					Defines the configuration parameter for switching signal channel 1 for the aPeak measurement channel.
.1	Logic		uint8		40	0			Defines the logical representation of the switching signal SSC in the process data.
						0 1			*High active* *Low active*
.2	Mode		uint8		32	0			Defines the evaluation mode for the switching signal SSC.
						0 1 2			*Deactivated (constant)* *Single point* *Window*
.3	Hyst		int32		0	0			Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.
						0			*Fix*
74 (0x4A)	**SSC3.2 Param aPeak**	R/W	record	8					Defines the setpoint values for switching signal channel 2 for the aPeak measurement channel.
.1	SP1		int32		32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel.
75 (0x4B)	**SSC3.2 Config aPeak**	R/W	record	6					Defines the configuration parameter for switching signal channel 2 for the aPeak measurement channel.
.1	Logic		uint8		40	0			Defines the logical representation of the switching signal SSC in the process data.
						0 1			*High active* *Low active*
.2	Mode		uint8		32	0			Defines the evaluation mode for the switching signal SSC.
						0 1 2			*Deactivated (constant)* *Single point* *Window*
.3	Hyst		int32		0	0			Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.
						0			*Fix*
76 (0x4C)	**SSC4.1 Param Temperature**	R/W	record	8					Defines the setpoint values for switching signal channel 1 for the temperature measurement channel.
.1	SP1		int32		32	50	-50 .. 100	°C	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	80	-50 .. 100	°C	Defines the setpoint 2 value for the switching signal channel.
77 (0x4D)	**SSC4.1 Config Temperature**	R/W	record	6					Defines the configuration parameter for switching signal channel 1 for the temperature measurement channel.
.1	Logic		uint8		40	0			Defines the logical representation of the switching signal SSC in the process data.
						0 1			*High active* *Low active*
.2	Mode		uint8		32	0			Defines the evaluation mode for the switching signal SSC.
						0 1 2			*Deactivated (constant)* *Single point* *Window*
.3	Hyst		int32		0	0	0 .. 20	K	Defines the hysteresis at the switchpoint.

78 (0x4E)	**SSC4.2 Param Temperature**	R/W	record	8				Defines the setpoint values for switching signal channel 2 for the temperature measurement channel.
.1	SP1		int32	32	50	-50 .. 100	°C	Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32	0	80	-50 .. 100	°C	Defines the setpoint 2 value for the switching signal channel.
79 (0x4F)	**SSC4.2 Config Temperature**	R/W	record	6				Defines the configuration parameter for switching signal channel 2 for the temperature measurement channel.
.1	Logic		uint8	40	0	0 1		Defines the logical representation of the switching signal SSC in the process data. *High active* *Low active*
.2	Mode		uint8	32	0	0 1 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* *Single point* *Window*
.3	Hyst		uint32	0	0	0 .. 20	K	Defines the hysteresis at the switchpoint.
80 (0x50)	**SSC5.1 Param Crest**	R/W	record	8				Defines the setpoint values for switching signal channel 1 for the crest factor measurement channel.
.1	SP1		int32	32	0	0 .. 10000		Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32	0	0	0 .. 10000		Defines the setpoint 2 value for the switching signal channel.
81 (0x51)	**SSC5.1 Config Crest**	R/W	record	6				Defines the configuration parameter for switching signal channel 1 for the crest factor measurement channel.
.1	Logic		uint8	40	0	0 1		Defines the logical representation of the switching signal SSC in the process data. *High active* *Low active*
.2	Mode		uint8	32	0	0 1 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* *Single point* *Window*
.3	Hyst		uint32	0	0	0: Fix	K	Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.
82 (0x52)	**SSC5.2 Param Crest**	R/W	record	8				Defines the setpoint values for switching signal channel 2 for the crest factor measurement channel.
.1	SP1		int32	32	0	0 .. 10000		Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32	0	0	0 .. 10000		Defines the setpoint 2 value for the switching signal channel.
83 (0x53)	**SSC5.2 Config Crest**	R/W	record	6				Defines the configuration parameter for switching signal channel 2 for the crest factor measurement channel.
.1	Logic		uint8	40	0	0 1		Defines the logical representation of the switching signal SSC in the process data. *High active* *Low active*
.2	Mode		uint8	32	0	0 1 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* *Single point* *Window*
.3	Hyst		uint32	0	0	0: Fix	K	Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.
128 (0x80)	**SSC6.1 Param Bearing**	R/W	record	8				Defines the setpoint values for switching signal channel 1 for the bearing status parameter measurement channel.
.1	SP1		int32	32	0	0 .. 10000		Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32	0	0	0 .. 10000		Defines the setpoint 2 value for the switching signal channel.
129 (0x81)	**SSC6.1 Config Bearing**	R/W	record	6				Defines the configuration parameter for switching signal channel 1 for the bearing status parameter measurement channel.
.1	Logic		uint8	40	0	0 1		Defines the logical representation of the switching signal SSC in the process data. *High active* *Low active*
.2	Mode		uint8	32	0	0 1 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* *Single point* *Window*
.3	Hyst		uint32		0	0	0: Fix	K	Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.

130 (0x80)	**SSC6.2 Param Bearing**	R/W	record	8					Defines the setpoint values for switching signal channel 2 for the bearing status parameter measurement channel.
.1	SP1		int32		32	0	0 .. 10000		Defines the setpoint 1 value for the switching signal channel.
.2	SP2		int32		0	0	0 .. 10000		Defines the setpoint 2 value for the switching signal channel.
131 (0x81)	**SSC6.2 Config Bearing**	R/W	record	6					Defines the configuration parameter for switching signal channel 2 for the bearing status parameter measurement channel.
.1	Logic		uint8		40	0	0 1		Defines the logical representation of the switching signal SSC in the process data. *High active* *Low active*
.2	Mode		uint8		32	0	0 1 2		Defines the evaluation mode for the switching signal SSC. *Deactivated (constant)* *Single point* *Window*
.3	Hyst		uint32		0	0	0: Fix	K	Defines the hysteresis at the switchpoint. The hysteresis is internally fixed to 2% of the setpoint setting.
84 (0x54)	**SSC1.1 Ext Config vRMS - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the vRMS detection signal on the switching signal channel 1. Shorter inactive signals will be suppressed.
85 (0x55)	**SSC1.2 Ext Config vRMS - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the vRMS detection signal on the switching signal channel 2. Shorter inactive signals will be suppressed.
86 (0x56)	**SSC2.1 Ext Config aRMS - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the aRMS detection signal on the switching signal channel 1. Shorter inactive signals will be suppressed.
87 (0x57)	**SSC2.2 Ext Config aRMS - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the aRMS detection signal on the switching signal channel 2. Shorter inactive signals will be suppressed.
88 (0x58)	**SSC3.1 Ext Config aPeak - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the aPeak detection signal on the switching signal channel 1. Shorter inactive signals will be suppressed.
89 (0x59)	**SSC3.2 Ext Config aPeak - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the aPeak detection signal on the switching signal channel 2. Shorter inactive signals will be suppressed.
90 (0x5A)	**SSC4.1 Ext Config Temperature - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the temperature detection signal on the switching signal channel 1. Shorter inactive signals will be suppressed.
91 (0x5B)	**SSC4.2 Ext Config Temperature - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the temperature detection signal on the switching signal channel 2. Shorter inactive signals will be suppressed.
92 (0x5C)	**SSC5.1 Ext Config Crest - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the crest factor detection signal on the switching signal channel 1. Shorter inactive signals will be suppressed.
93 (0x5D)	**SSC5.2 Ext Config Crest - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the crest factor detection signal on the switching signal channel 2. Shorter inactive signals will be suppressed.
144 (0x90)	**SSC6.1 Ext Config Bearing - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the bearing condition signal on the switching signal channel 1. Shorter inactive signals will be suppressed.
145 (0x91)	**SSC6.2 Ext Config Bearing - Off Delay**	R/W	uint16	2	16	0	0: Disabled 1 .. 60000	ms	Defines the minimum duration of a stable inactive state of the bearing condition signal on the switching signal channel 2. Shorter inactive signals will be suppressed.
96 (0x60)	**Frequency Filter Config MDC1, MDC2**	R/W	uint8	1		0	0 1 2 3 4 5 6 7		Defines the filter bandwidth for vibration signal evaluation. The filter has a 3rd order Butterworth characteristic according to DIN ISO 2954. *10 .. 1000 Hz* *10 .. 500 Hz* *10 .. 100 Hz* *10 .. 50 Hz* *1 .. 1000 Hz* *1 .. 500 Hz* *1 .. 100 Hz* *1 .. 50 Hz*

97 (0x61)	BLOB Raw Data Config - Sampling Rate	R/W	uint8	1		0	SamPP*Dauer - Tiefpassfilter (HW Max 12 kHz) 0: 1: 2: 3: 4: 5:		Defines the samPP*Duration and the corresponding low-pass filter for the raw data recording available via BLOB transfer. *64 kHz - 5 s ; TP = 12 kHz* *32 kHz - 10 s ; TP = 6 kHz* *16 kHz - 20 s ; TP = 3 kHz* *8 kHz - 40 s ; TP = 1,5 kHz* *4 kHz - 80 s ; TP = 0,75 kHz* *2 kHz - 160 s ; TP = 0,3 kHz*
98 (0x62)	BLOB Raw Data Config - Number of Samples	R/W	uint16	2		64	0 .. 320	10^3	Defines the number of thousand samPP*Data recording available via BLOB transfer. (Maximum is 64.000 Hz * 5 s * 32 Bit resolution (internal) = 10.240.000)
99 (0x63)	BLOB Raw Data - Recording Time	R	uint16	2			0 .. 65535	s	Shows the recording time for raw data recording, which results from the configured samPP*D number of samples.
100 (0x64)	BLOB Raw Data - Estimated Transmission Time	R	uint16	2			0 .. 65535	s	Shows the estimated transfer time for the BLOB transfer of the BLOB containing the raw data recording. This value varies dependent on the configured number of samples.
101 (0x65)	BLOB Raw Data - Triggerselect	R/W	uint8	1		0	0 1 2 3 4 5 6 7 8 9 10 11 12		Defines additional Trigger for BLOB record based on SSCs *Inactive* *SSC1.1 – vRMS* *SSC1.2 – vRMS* *SSC2.1 – aRMS* *SSC2.2 – aRMS* *SSC3.1 – aPeak* *SSC3.2 – aPeak* *SSC4.1 – Temperature* *SSC4.2 – Temperature* *SSC5.1 – Crest* *SSC5.2 – Crest* *SSC6.1 – Bearing* *SSC6.2 – Bearing*
102 (0x66)	Blob Active ID		int16	2					*Index of active Blob ID* *0 if inactive (Blob Status = 0)* *BLOB_ID_Param = -4096,* *BLOB_ID_SSC_Trigger = -4097,* *BLOB_ID_PDO_Trigger = -4098,*
112 (0x70)	I/O Config - C/Q Function	R/W	uint8	1		0	0 1 2 3 4 5 6 7 8 9 10 11 12		Defines the I/O function for C/Q (Pin 4) in SIO mode. *Inactive* *SSC1.1 - vRMS* *SSC1.2 - vRMS* *SSC2.1 - aRMS* *SSC2.2 - aRMS* *SSC3.1 - aPeak* *SSC3.2 - aPeak* *SSC4.1 - Temperature* *SSC4.2 - Temperature* *SSC5.1 - Crest* *SSC5.2 - Crest* *SSC6.1 - Bearing* *SSC6.2 - Bearing*
113 (0x71)	I/O Config - I/Q Function	R/W	uint8	1		0	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		Defines the I/O type and function for I/Q (Pin 2). *Inactive* *SSC1.1 - vRMS* *SSC1.2 - vRMS* *SSC2.1 - aRMS* *SSC2.2 - aRMS* *SSC3.1 - aPeak* *SSC3.2 - aPeak* *SSC4.1 - Temperature* *SSC4.2 - Temperature* *SSC5.1 - Crest* *SSC5.2 - Crest* *SSC6.1 - Bearing* *SSC6.2 - Bearing* *Analog 4 .. 20mA - vRMS* *Analog 4 .. 20mA - aRMS* *Analog 4 .. 20mA - aPeak* *Analog 4 .. 20mA - Temperature* *Analog 4 .. 20mA - Crest* *Analog 4 .. 20mA - Bearing*
114 (0x72)	AO Param vRMS - SP	R/W	int32	1		12800	0 .. 25600	0.01 mm/s	Defines the upper limit of the vRMS measurement range for the analog output. The upper limit corresponds to the maximum analog output current (20 mA).

115 (0x73)	**AO Param aRMS - SP**	R/W	int32	1		1400	0 .. 4800	0.01 g	Defines the upper limit of the aRMS measurement range for the analog output. The upper limit corresponds to the maximum analog output current (20 mA).
116 (0x74)	**AO Param aPeak - SP**	R/W	int32	1		1400	0 .. 4800	0.01 g	Defines the upper limit of the aPeak measurement range for the analog output. The upper limit corresponds to the maximum analog output current (20 mA).
117 (0x75)	**AO Param Temperature**	R/W	record	8					Defines the limits of the temperature measurement range for the analog output.
.1	SP1		int32		32	-40	-50 .. 100	°C	Defines one limit of the temperature measurement range for the analog output. The lower value of SP1 Or SP2 corresponds to the minimum analog output current (4 mA), the highest value to the highest current (20 mA).
.2	SP2		int32		0	80	-50 .. 100	°C	Defines one limit of the temperature measurement range for the analog output. The lower value of SP1 Or SP2 corresponds to the minimum analog output current (4 mA), the highest value to the highest current (20 mA).
118 (0x76)	**AO Param Crest - SP**	R/W	int32	1		10000	0 .. 10000		Defines the upper limit of the Crest factor measurement range for the analog output. The upper limit corresponds to the maximum analog output current (20 mA).
120 (0x78)	**Event Config**	R/W	record	2					See table Event Codes
.1	Warning - Maintenance Diagnosis		bool		0	0	0: Disabled 1: Enabled		Enabled: an event is triggered if one of the maintenance alarms gets active. (Event code 0x8D01)

6 Command Interface

Index	Parameter	Access	Data type	Length	Value	Description
2 (0x02)	System Command	W	uint	8 bit	See command value	Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.

Command Value	Command	Description
129 (0x81)	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.
131 (0x83)	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: Immediately detach the device from the master port!
176 (0xB0)	Maintenance Reset	Reset the maintenance status and maintenance monitor data.
177 (0xB1)	Blob Reset	Reset the Blob State machine and erase the internal flash memory.where dynamic data is stored

7 Error Codes

Event code	Error Type	Comment
32785 (0x8011)	**Index not available**	R/W access to not implemented parameter index
32786 (0x8012)	**Subindex not available**	R/W access to not implemented parameter subindex
32800 (0x8020)	**Service temporarily not available**	Access to parameter not possible due to device state
32801 (0x8021)	**Service temporarily not available, local control**	Access to parameter inhibited due to local operation
32802 (0x8022)	**Service temporarily not available, device control**	Access to parameter inhibited due to wrong device state
32803 (0x8023)	**Access denied**	Write access to Read-only parameter
32816 (0x8030)	**Parameter value out of range**	Used for all R/W parameters, if value other than listed
32817 (0x8031)	**Parameter value above limit**	Used for all R/W parameters, if value above value range
32818 (0x8032)	**Parameter value below limit**	Used for all R/W parameters, if value below value range
32819 (0x8033)	**Parameter length overrun**	Used for all R/W parameters, if parameter length exceeded
32820 (0x8034)	**Parameter length underrun**	Used for all R/W parameters, if parameter length too small
32821 (0x8035)	**Function not available**	Access to command, which is not supported
32822 (0x8036)	**Function temporarily not available**	Access to command, which is not available due to device state
32832 (0x8040)	**Invalid parameter set**	Collision with other parameters at single parameter transfer
32833 (0x8041)	**Inconsistent parameter set**	Interfering parameters at block parameter transfer

8 Event Codes

Event Code	Event	Type	Application
System Events			
65425 (0xFF91)	Data Storage UPP*D Request	Notification	
Standard Application Events			
20496 (0x5010)	Hardware error	Error	non recoverable hardware misbehavior - change device
HAUBER specific Test Events			
36093 (0x8CFD)	Test Incident 1	Warning	Warning event on test incident 1
36094 (0x8CFE)	Test Incident 2	Error	Error event on test incident 2
HAUBER specific Application Events			
36097 (0x8D01)	Maintenance request		The limit for a configured maintenance cycle has been reached. - Perform the required maintenance actions and apPP*D.
36163 (0x8D43)	Temperature range exceeded		The ambient temperature is outside the specified temperature range - check sensor environment