IO-Link Parameter Datasheet

Vibration

Vibration Sensor

VIM32PL-E1AC8-0RE-IO-1V1401

PEPPERL+FUCHS

IO-Link

Support: fa-info@pepperl-fuchs.com
Internet: www.pepperl-fuchs.com
DOCT-8463 - Version 1.00.000 / 2022-10-21

General Information

Device Identification

Vendor ID	1 (0x0001)
Device ID	5308417 (0x510001)

Features

Data storage	Yes
Block parameterization	Yes

Communication Characteristics

IO-Link revision	V1.1 (specification V1.1.3)
IO-Link backward compatibility	n/a
Data transmission rate	COM2 (38,4 kbit/s)
Min. cycle time	10 ms
Process data input	16 byte
Process data output	n/a
SIO mode support	yes
Compatible master port type	Class A, Class B (see NOTE)

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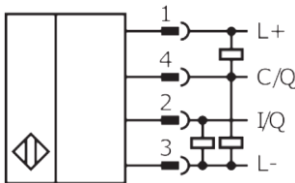
Device Profile

Identification and Diagnosis – I&D	16384 (0x4000)
Function Class - Product URI	33026 (0x8102)

Supported Product Variants

Product ID	Product Name	Description	Connector
70140695-100001	VIM32PL-E1AC8-0RE-IO-1V1401	Vibration Sensor, Medium housing size, Housing material AISI 303/V2A, External thread, 10 ... 1000 Hz, Vibration velocity (rms) + Vibration acceleration (rms) + Vibration acceleration (peak) + temperature, Measurement range up to 128 mm/s rms + 10 g rms + 14 g peak, IP66/IP67, M12, 4-pin	Plug, M12, 4-pole

Connection

Connection Diagram	Description
	Plug, M12, 4-pole 1: Brown - +24V 2: White – I/Q 3: Blue - 0V 4: Black - C/Q

Process Data

Process Data Input

Sub	Name	Data type	Length	Bitoffs.	Value	Unit	Description
.1	Measurement Value MDC1 - vRMS	Integer	16 bit	112	vRMS	0.01 mm/s	Indicates the current velocity RMS measurement value of measurement data channel 1 - vRMS.
.2	MDC1 - Scale	Integer	8 bit	104	-5: 10e-5		Shows the multiplier for the measurement value of measurement data channel 1 - vRMS. Multiplier: 10exp (scale).
.3	SSC1.1 - Switching Signal	Bool	1 bit	96	*0* *1*		Indicates the current status of the switching signal 1.1 for measurement data channel 1 - vRMS. *Low* *High*
.4	SSC1.2 - Switching Signal	Bool	1 bit	97	*0* *1*		Indicates the current status of the switching signal 1.2 for measurement data channel 1 - vRMS. *Low* *High*
.11	Measurement Value MDC2 - aRMS	Integer	16 bit	80	aRMS	0.01 g	Indicates the current measurement value of measurement data channel 2 - aRMS.
.12	MDC2 - Scale	Integer	8 bit	72	-2: 10e-2		Shows the multiplier for the measurement value of measurement data channel 2 - aRMS. Multiplier: 10exp (scale).
.13	SSC2.1 - Switching Signal	Bool	1 bit	64	*0* *1*		Indicates the current status of the switching signal 2.1 for measurement data channel 2 - aRMS. *Low* *High*
.14	SSC2.2 - Switching Signal	Bool	1 bit	65	*0* *1*		Indicates the current status of the switching signal 2.2 for measurement data channel 2 - aRMS. *Low* *High*
.21	Measurement Value MDC3 - aPeak	Integer	16 bit	48	aPeak	0.01 g	Indicates the current measurement value of measurement data channel 3 - aPeak.
.22	MDC3 - Scale	Integer	8 bit	40	-2: 10e-2		Shows the multiplier for the measurement value of measurement data channel 3 - aPeak. Multiplier: 10exp(scale).
.23	SSC3.1 - Switching Signal	Bool	1 bit	32	*0* *1*		Indicates the current status of the switching signal 3.1 for measurement data channel 3 - aPeak. *Low* *High*
.24	SSC3.2 - Switching Signal	Bool	1 bit	33	*0* *1*		Indicates the current status of the switching signal 3.2 for measurement data channel 3 - aPeak. *Low* *High*
.31	MDC4 - Temperature	Integer	16 bit	16	Temp	°C	Indicates the current measurement value of measurement data channel 4 - Temperature.
.32	MDC4 - Scale	Integer	8 bit	8	0: 10e0		Shows the multiplier for the measurement value of measurement data channel 4 - Temperature. Multiplier: 10exp(scale).
.33	SSC4.1 - Switching Signal	Bool	1 bit	0	*0* *1*		Indicates the current status of the switching signal 4.1 for measurement data channel 4 - Temperature. *Low* *High*
.34	SSC4.2 - Switching Signal	Bool	1 bit	1	*0* *1*		Indicates the current status of the switching signal 4.2 for measurement data channel 4 - Temperature. *Low* *High*
.37	DSC1 - Maintenance Warning	Bool	1 bit	4	*0* *1*		Indicates that at least one of the configured maintenance limits has been exceeded. *Low* *High*

NOTE: The process data input content can be accessed in addition over parameter 'Process Data Input' at index 40 (0x28)

Parameter Data

Identification

Index	Parameter	Access	Data type	Length	Default	Description	DS	R
16 (0x10)	Vendor Name	ro	String	13 byte	Pepperl+Fuchs	The vendor name that is assigned to a Vendor ID.		
17 (0x11)	Vendor Text	ro	String	29 byte	www.pepperl-fuchs.com/io-link	Additional information about the vendor.		
18 (0x12)	Product Name	ro	String	max. 30 byte	VIM32PL-E1AC8-0RE-IO-1V1401	Complete product name.		
19 (0x13)	Product ID	ro	String	15 byte	70140695-100001	Vendor-specific product or type identification (e.g., item number or model number).		
20 (0x14)	Product Text	ro	String	max. 30 byte	Vibration Sensor	Additional product information for the device.		
21 (0x15)	Serial Number	ro	String	14 byte		Unique, vendor-specific identifier of the individual device.		
22 (0x16)	Hardware Revision	ro	String	7 byte	HW**.**	Unique, vendor-specific identifier of the hardware revision of the individual device.		
23 (0x17)	Firmware Revision	ro	String	7 byte	FW**.**	Unique, vendor-specific identifier of the firmware revision of the individual device.		
24 (0x18)	Application Specific Tag	rw	String	max. 32 byte	Your automation, our passion.	Possibility to mark a device with user- or application-specific information.	Y	F
25 (0x19)	Function Tag	rw	String	max. 32 byte	***	Possibility to mark a device with function-specific information.	Y	F
26 (0x1A)	Location Tag	rw	String	max. 32 byte	***	Possibility to mark a device with location-specific information.	Y	F

Diagnosis

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
36 (0x24)	Device Status	ro	UInteger	8 bit		0			Indicator for the current device condition and diagnosis state.		FA
							0		*Device is OK*		
							1		*Maintenance required*		
							2		*Out of Specification*		
							3		*Functional check*		
							4		*Failure*		
37 (0x25)	Detailed Device Status	ro	Array ^{S0}	12 byte					List of all currently pending events in the device.		FA
.1	Element 1		Octetstr	3 byte	72						FA
.2	Element 2		Octetstr	3 byte	48						FA
.3	Element 3		Octetstr	3 byte	24						FA
.4	Element 4		Octetstr	3 byte	0						FA
224 (0xE0)	Operating Hours	ro	UInteger	32 bit			0 .. 2^{32}-1	h	Shows the overall hours of operation since initial commissioning.		
225 (0xE1)	Temperature Indicator	ro	UInteger	8 bit			0		Indicates the operation at critical ambient temperatures or excess of specification limits.		
							0		*Operating condition OK*		
							1		*Close to upper limit*		
							2		*Upper limit exceeded*		
							3		*Close to lower limit*		
							4		*Lower limit exceeded*		
226 (0xE2)	Temperature Monitor	ro	Record	9 byte					*Contains parameters showing current and past conditions of temperature exposure since initial commissioning.*		
.1	OVT Operating Hours	ro	UInteger	32 bit	40		0 .. 2^{32}-1	h	*Shows the overall hours of operation outside the temperature range -40°C...+80°C since initial commissioning.*		

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
.2	OVT Exceeded Counter	ro	UInteger	16 bit	24		0 .. 65535		*Shows the number of number of transitions to operating temperatures outside the temperature range -40°C...+80°C since initial commissioning.*		
.3	Max. Temperature	ro	Integer	8 bit	16		-50 .. +100	°C	*Shows the maximum observed temperature since initial commissioning.*		
.4	Min. Temperature	ro	Integer	8 bit	8		-50 .. +100	°C	*Shows the minimum observed temperature since initial commissioning.*		
.5	Operating Temperature	ro	Integer	8 bit	0		-50 .. +100	°C	*Shows the currently measured ambient temperature.*		
227 (0xE3)	Power Monitor	ro	Record	16 byte					*Contains parameters showing current and past conditions of power cycles since initial commissioning.*		
.1	Power Cycles	ro	UInteger	32 bit	96		0 .. 2^{32}-1		*Shows the number of power cycles since initial commissioning. (incremented on power-on)*		
.2	Maximum Uptime	ro	UInteger	32 bit	64		0 .. 2^{32}-1	h	*Shows the maximum observed powered operating time between power cycles in seconds since initial commissioning.*		
.3	Average Uptime	ro	UInteger	32 bit	32		0 .. 2^{32}-1	h	*Shows the average observed powered operating time between power cycles in seconds since initial commissioning.*		
.4	Uptime	ro	UInteger	32 bit	0		0 .. 2^{32}-1	h	*Shows the current operating time since the last power cycle in seconds.*		
176 (0xB0)	Device Characteristic	ro	Record ^{S0}	6 byte					Shows relevant key characteristics of the device for use in applications.		
.1	Measurement Range	ro	Integer	16 bit	32		0 .. 128 mm/s / 0 .. 14 g (peak)		Shows the maximum measurement range for vibration measurements as specified.		
.2	Measurement Bandwidth	ro	Integer	16 bit	16		10 .. 1000 Hz		Shows the maximum frequency range for vibration measurements as specified.		
.3	Supply Current Requirement	ro	UInteger	16 bit	0		700	mA	Shows the maximum specified supply current excluding load.		
177 (0xB1)	MDC1 Descriptor vRMS	ro	Record ^{S0}	11 byte							
.1	Lower Value	ro	Integer	32 bit	56		0		Shows the lower value of measurement range.		
.2	Upper Value	ro	Integer	32 bit	24		12800		Shows the upper value of measurement range.		
.3	Unit Code	ro	UInteger	16 bit	8		1061		Shows the unique code for the physical unit.		
.4	Scale	ro	Integer	8 bit	0		-5		Shows the multiplier for measurement value - 10exp(scale).		
178 (0xB2)	MDC2 Descriptor aRMS	ro	Record ^{S0}	11 byte							
.1	Lower Value	ro	Integer	32 bit	56		0		Shows the lower value of measurement range.		
.2	Upper Value	ro	Integer	32 bit	24		1000		Shows the upper value of measurement range.		
.3	Unit Code	ro	UInteger	16 bit	8		1089		Shows the unique code for the physical unit.		
.4	Scale	ro	Integer	8 bit	0		-2		Shows the multiplier for measurement value - 10exp(scale).		
179 (0xB3)	MDC3 Descriptor aPeak	ro	Record ^{S0}	11 byte							
.1	Lower Value	ro	Integer	32 bit	56		0		Shows the lower value of measurement range.		
.2	Upper Value	ro	Integer	32 bit	24		1400		Shows the upper value of measurement range.		

Diagnosis

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
.3	Unit Code	ro	UInteger	16 bit	8		1089		Shows the unique code for the physical unit.		
.4	Scale	ro	Integer	8 bit	0		-2		Shows the multiplier for measurement value - 10exp(scale).		
180 (0xB4)	MDC4 Descriptor Temperature	ro	Record S0	11 byte							
.1	Lower Value	ro	Integer	32 bit	56		-50		Shows the lower value of measurement range.		
.2	Upper Value	ro	Integer	32 bit	24		100		Shows the upper value of measurement range.		
.3	Unit Code	ro	UInteger	16 bit	8		1001		Shows the unique code for the physical unit.		
.4	Scale	ro	Integer	8 bit	0		0		Shows the multiplier for measurement value - 10exp(scale).		

Maintenance Functions

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
208 (0xD0)	Maintenance Config vRMS	rw	Record	8 byte					Defines needed Maintenance concerning vRMS	Y	FA
.1	Overrun Threshold	rw	Integer	32 bit	32	0	0: Disabled 1 .. 12800	0.01 mm/s	Defines the threshold for triggereing of vRMS maintenance monitoring.	Y	FA
.2	Incident Count Limit	rw	UInteger	16 bit	16	0	0: Disabled 1 ... 2^{16}-1		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.	Y	FA
.3	Incident Operating Limit	rw	UInteger	16 bit	0	0	0: Disabled 1 ... 2^{16}-1	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.	Y	FA
209 (0xD1)	Maintenance Config aRMS	rw	Record	8 byte					Defines needed Maintenance concerning aRMS	Y	FA
.1	Overrun Threshold	rw	Integer	32 bit	32	0	0: Disabled 1 .. 1000	0.01 g	Defines the threshold for triggereing of aRMS maintenance monitoring.	Y	FA
.2	Incident Count Limit	rw	UInteger	16 bit	16	0	0: Disabled 1 .. 2^{16}-1		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.	Y	FA
.3	Incident Operating Limit	rw	UInteger	16 bit	0	0	0: Disabled 1 .. 2^{16}-1	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.	Y	FA
210 (0xD2)	Maintenance Config aPeak	rw	Record	8 byte					Defines needed Maintenance concerning aPeak	Y	FA
.1	Overrun Threshold	rw	Integer	32 bit	32	0	0: Disabled 1 .. 1400	0.01 g	Defines the threshold for triggereing of aRMS maintenance monitoring.	Y	FA

Maintenance Functions										
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
.2	Incident Count Limit	rw	UInteger	16 bit	16	0	0: Disabled 1 .. 2^{16}-1		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.	Y	FA
.3	Incident Operating Limit	rw	UInteger	16 bit	0	0	0: Disabled 1 .. 2^{16}-1	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.	Y	FA
211 (0xD3)	Maintenance Config Temperature	rw	Record	8 byte					Defines needed Maintenance concerning Temperature	Y	FA
.1	Overrun Threshold	rw	Integer	32 bit	32	0	0: Disabled 1 .. 100	°C	Defines the threshold for triggereing of Temperature maintenance monitoring.	Y	FA
.2	Incident Count Limit	rw	UInteger	16 bit	16	0	0: Disabled 1 .. 2^{16}-1		Defines the limit for the number of transitions above the 'Overrun Threshold'. The according maintenance alarm will be set, if this limit is exceeded.	Y	FA
.3	Incident Operating Limit	rw	UInteger	16 bit	0	0	0: Disabled 1 .. 2^{16}-1	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.	Y	FA
213 (0xD5)	Maintenance Config Operating Time	rw	UInteger	16 bit		0	0: Disabled 1 .. 2^{16}-1		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.	Y	FA
216 (0xD8)	Maintenance Monitor vRMS	ro	Record	6 byte					Shows accumulated maintenance numbers concerning vRMS since the last maintenance reset		FAM
.1	Overrun Time	ro	UInteger	32 bit	16		0 .. 2^{32}-1	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset.		FAM
.2	Overrun Count	ro	UInteger	16 bit	0		0 .. 2^{16}-1		Shows the number of transitions above the configured threshold since the last maintenance reset.		FAM
217 (0xD9)	Maintenance Monitor aRMS	ro	Record	6 byte					Shows accumulated maintenance numbers concerning aRMS since the last maintenance reset		FAM
.1	Overrun Time	ro	UInteger	32 bit	16		0 .. 2^{32}-1	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset.		FAM
.2	Overrun Count	ro	UInteger	16 bit	0		0 .. 2^{16}-1		Shows the number of transitions above the configured threshold since the last maintenance reset.		FAM
218 (0xDA)	Maintenance Monitor aPeak	ro	Record	6 byte					Shows accumulated maintenance numbers concerning aPeak since the last maintenance reset		FAM

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
	Maintenance Functions										
.1	Overrun Time	ro	UInteger	32 bit	16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset.		FAM
.2	Overrun Count	ro	UInteger	16 bit	0		$0 .. 2^{16}-1$		Shows the number of transitions above the configured threshold since the last maintenance reset.		FAM
219 (0xDB)	Maintenance Monitor Temperature	ro	Record	6 byte					Shows accumulated maintenance numbers concerning Temperature since the last maintenance reset		FAM
.1	Overrun Time	ro	UInteger	32 bit	16		$0 .. 2^{32}-1$	h	Shows the accumulated operating time in hours of operation above the configured threshold since the last maintenance reset.		FAM
.2	Overrun Count	ro	UInteger	16 bit	0		$0 .. 2^{16}-1$		Shows the number of transitions above the configured threshold since the last maintenance reset.		FAM
221 (0xDD)	Operating Time Since Maintenance	ro	UInteger	32 bit			$0 .. 2^{32}-1$	h	Shows accumulated maintenance numbers concerning Time since the last maintenance reset		FAM
223 (0xDF)	Maintenance Status Diag	ro	Record	2 byte					Shows if which Incident Limit is exceeded.		FAM
.1	vRMS Exceeded Time Alarm	ro	bool		0	0	*0* *1*		Shows if vRMS Incident Operating Limit is exceeded. *Inactive* *Active*		FAM
.2	vRMS Exceeded Count Alarm	ro	bool		1	0	*0* *1*		Shows if vRMS Incident Count Limit is exceeded. *Inactive* *Active*		FAM
.3	aRMS Exceeded Time Alarm	ro	bool		2	0	*0* *1*		Shows if aRMS Incident Operating Limit is exceeded. *Inactive* *Active*		FAM
.4	aRMS Exceeded Count Alarm	ro	bool		3	0	*0* *1*		Shows if aRMS Incident Count Limit is exceeded. *Inactive* *Active*		FAM
.5	aPeak Exceeded Time Alarm	ro	bool		4	0	*0* *1*		Shows if aPeak Incident Operating Limit is exceeded. *Inactive* *Active*		FAM
.6	aPeak Exceeded Count Alarm	ro	bool		5	0	*0* *1*		Shows if aPeak Incident Count Limit is exceeded. *Inactive* *Active*		FAM
.7	Temperature Exceeded Time Alarm	ro	bool		6	0	*0* *1*		Shows if Temperature Incident Operating Limit is exceeded. *Inactive* *Active*		FAM
.8	Temperature Exceeded Count Alarm	ro	bool		7	0	*0* *1*		Shows if Temperature Incident Count Limit is exceeded. *Inactive* *Active*		FAM
.9 - .15	reserved		bool								FAM
.16	Maintenance Cycle Time Exceeded Alarm	ro	bool		15	0			Shows if operating time for a planned maintenance cycle Incident Limit is exceeded.		FAM

Maintenance Functions											
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
							0		Inactive		
							1		Active		

Parameterization & Configuration											
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
64 (0x40)	SSC.1.1 Param vRMS	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.1 vRMS	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	0 .. 12800	0.01 mm/s	Defines the setpoint 1 value for the switching signal channel 1.1 vRMS.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	0 .. 12800	0.01 mm/s	Defines the setpoint 2 value for the switching signal channel 1.1 vRMS.	Y	FA
65 (0x41)	SSC.1.1 Config vRMS	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.1 vRMS	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 1.1 vRMS	Y	FA
							0		High active		
							1		Low active		
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 1.1 vRMS	Y	FA
							0		Deactivated		
							1		Single point		
							2		Window		
66 (0x42)	SSC.1.2 Param vRMS	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.2 vRMS	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	0 .. 12800	0.01 mm/s	Defines the setpoint 1 value for the switching signal channel 1.2 vRMS.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	0 .. 12800	0.01 mm/s	Defines the setpoint 2 value for the switching signal channel 1.2 vRMS.	Y	FA
67 (0x43)	SSC.1.2 Config vRMS	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.2 vRMS	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 1.2 vRMS	Y	FA
							0		High active		
							1		Low active		
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 1.2 vRMS	Y	FA
							0		Deactivated		
							1		Single point		
							2		Window		
68 (0x44)	SSC.2.1 Param aRMS	rw	Record	8 byte					Defines the setpoint values for switching signal channel 2.1 aRMS	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel 2.1 aRMS.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel 2.1 aRMS.	Y	FA

Parameterization & Configuration											
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
69 (0x45)	SSC.2.1 Config aRMS	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 2.1 aRMS	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 2.1 aRMS	Y	FA
							0 *1*		*High active* *Low active*		
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 2.1 aRMS	Y	FA
							0 *1* *2*		*Deactivated* *Single point* *Window*		
70 (0x46)	SSC.2.2 Param aRMS	rw	Record	8 byte					Defines the setpoint values for switching signal channel 2.2 aRMS	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel 2.2 aRMS.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel 2.2 aRMS.	Y	FA
71 (0x47)	SSC.2.2 Config aRMS	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 2.2 aRMS	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 2.2 aRMS	Y	FA
							0 *1*		*High active* *Low active*		
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 2.2 aRMS	Y	FA
							0 *1* *2*		*Deactivated* *Single point* *Window*		
72 (0x48)	SSC.3.1 Param aPeak	rw	Record	8 byte					Defines the setpoint values for switching signal channel 3.1 aPeak	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel 3.1 aPeak.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel 1.1 aPeak.	Y	FA
73 (0x49)	SSC.3.1 Config aPeak	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 3.1 aPeak.	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 3.1 vRMS	Y	FA
							0 *1*		*High active* *Low active*		
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 3.1 aPeak.	Y	FA
							0 *1* *2*		*Deactivated* *Single point* *Window*		
74 (0x4A)	SSC.3.2 Param aPeak	rw	Record	8 byte					Defines the setpoint values for switching signal channel 3.2 aPeak.	Y	FA

Parameterization & Configuration										
Index .sub	**Parameter**	**Access**	**Data type**	**Length**	**Bitoffs.**	**Default**	**Value**	**Unit**	**Description**	**DS**	**R**
.1	SP1	rw	Integer	32 bit	32	0	0 .. 1400	0.01 g	Defines the setpoint 1 value for the switching signal channel 3.2 aPeak.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	0 .. 1400	0.01 g	Defines the setpoint 2 value for the switching signal channel 3.2 aPeak.	Y	FA
75 (0x4B)	SSC.3.2 Config aPeak	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 3.2 aPeak.	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 3.2 aPeak. *High active* *Low active*	Y	FA
							0 *1*				
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 3.2 aPeak. *Deactivated* *Single point* *Window*	Y	FA
							0 *1* *2*				
76 (0x4C)	SSC.4.1 Param Temperature	rw	Record	8 byte					Defines the setpoint values for switching signal channel 4.1 Temperature.	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	-50 .. 100	°C	Defines the setpoint 1 value for the switching signal channel 4.1 Temperature.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	-50 .. 100	°C	Defines the setpoint 2 value for the switching signal channel 1.1 vRMS.	Y	FA
77 (0x4D)	SSC.4.1 Config Temperature	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 4.1 Temperature.	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 4.1 Temperature *High active* *Low active*	Y	FA
							0 *1*				
.2	Mode	rw	UInteger	8 bit	32	0			Defines the evaluation mode for the switching signal 4.1 Temperature *Deactivated* *Single point* *Window*	Y	FA
							0 *1* *2*				
78 (0x4E)	SSC.4.2 Param Temperature	rw	Record	8 byte					Defines the setpoint values for switching signal channel 4.2 Temperature.	Y	FA
.1	SP1	rw	Integer	32 bit	32	0	-50 .. 100	°C	Defines the setpoint 1 value for the switching signal channel 4.2 Temperature.	Y	FA
.2	SP2	rw	Integer	32 bit	0	0	-50 .. 100	°C	Defines the setpoint 2 value for the switching signal channel 4.2 Temperature.	Y	FA
79 (0x4F)	SSC.4.2 Config Temperature	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 4.2 Temperature.	Y	FA
.1	Logic	rw	UInteger	8 bit	40	0			Defines the logical behavior of the switching signal 4.2 Temperature. *High active* *Low active*	Y	FA
							0 *1*				

Parameterization & Configuration

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
.2	Mode	rw	UInteger	8 bit	32	0	*0* *1* *2*		Defines the evaluation mode for the switching signal 4.2 Temperature. *Deactivated* *Single point* *Window*	Y	FA
84 (0x54)	SSC1.1 Ext Config vRMS - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the vRMS detection signal on the switching signal channel 1.1. Shorter inactive signals will be suppressed.	Y	FA
85 (0x55)	SSC1.2 Ext Config vRMS - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the vRMS detection signal on the switching signal channel 1.2. Shorter inactive signals will be suppressed.	Y	FA
86 (0x56)	SSC2.1 Ext Config aRMS - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the aRMS detection signal on the switching signal channel 2.1. Shorter inactive signals will be suppressed.	Y	FA
87 (0x57)	SSC2.2 Ext Config aRMS - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the aRMS detection signal on the switching signal channel 2.2. Shorter inactive signals will be suppressed.	Y	FA
88 (0x58)	SSC3.1 Ext Config aPeak - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the aPeak detection signal on the switching signal channel 3.1. Shorter inactive signals will be suppressed.	Y	FA
89 (0x59)	SSC3.2 Ext Config aPeak - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the aPeak detection signal on the switching signal channel 3.2. Shorter inactive signals will be suppressed.	Y	FA
90 (0x5A)	SSC4.1 Ext Config Temperature - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the Temperature detection signal on the switching signal channel 4.1. Shorter inactive signals will be suppressed.	Y	FA
91 (0x5B)	SSC4.2 Ext Config Temperature - Off Delay	rw	UInteger	16 bit		0	0: Disabled 1 .. 60000		Defines the minimum duration of a stable inactive state of the Temperature detection signal on the switching signal channel 4.2. Shorter inactive signals will be suppressed.	Y	FA

Parameterization & Configuration											
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
96 (0x60)	Filter Config	rw	UInteger	8 bit		0		Hz	Defines the filter bandwith for vibration signal evaluation. The filter has a 3rd order Butterworth characteristic according to DIN ISO 2954.	Y	FA
							0 1 2 3		10…1000 10…500 10…100 10…50		
112 (0x70)	I/O Config - C/Q Function	rw	UInteger	8 bit		0			Defines the I/O function for C/Q (Pin 4) in SIO mode.	Y	FA
							0 1 2 3 4 5 6 7 8		Inactive SSC1.1 - vRMS SSC1.2 - vRMS SSC2.1 - aRMS SSC2.2 - aRMS SSC3.1 - aPeak SSC3.2 - aPeak SSC4.1 – Temp. SSC4.2 – Temp.		
113 (0x71)	I/O Config - I/Q Function	rw	UInteger	8 bit		0			Defines the I/O type and function for I/Q (Pin 2).	Y	FA
							0 1 2 3 4 5 6 7 8 11 12 13 14		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 Analog 4…20mA - vRMS Analog 4…20mA - aRMS Analog 4…20mA - aPeak Analog 4…20mA – Temp.		
114 (0x72)	AO Param vRMS - SP	rw	Integer	32 bit		128 mm/s	0…12800	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).	Y	FA
115 (0x73)	AO Param aRMS - SP	rw	Integer	32 bit		14 g	0…1000	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).	Y	FA
116 (0x74)	AO Param aPeak - SP	rw	Integer	32 bit		14 g	0…1400	0.01 mm/s	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).	Y	FA
117 (0x75)	AO Param Temperature	rw	Record	8 byte					Defines the limits of the temperature measurement range for the analog output.	Y	FA
.1	SP1	rw	UInteger	32 bit	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).	Y	FA

Parameterization & Configuration

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
.2	SP2	rw	UInteger	32 bit	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).	Y	FA
120 (0x78)	Event Config	rw	Record	2 byte					Defines which event sources can trigger events	Y	FA
.1	Warning - Maintenance Diagnosis	rw	Bool	1 bit	0	0			Enabled: an event, device status and maintenance request function is triggered if one of the maintenance alarms gets active. (Event code 0x8D01)	Y	FA
							0 *1*		*Disabled* *Enabled*		
.2 - .16	reserved									Y	FA

Observation

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
236 (0xEC)	Observation Data	ro	Record S0	17 bytes					Provides a set of relevant data suitable for observation purposes.		FA
.1	Measurement Value - vRMS	ro	Integer	16 bit	120			0.01 mm/s	Indicates the current measurement value of measurement data channel 1 - vRMS.		FA
.2	SSC1.1	ro	UInteger	8 bit	112		*0* *1*		Indicates the current status of the switching signal 1.1 *Low* *High*		FA
.3	SSC1.2	ro	UInteger	8 bit	104		*0* *1*		Indicates the current status of the switching signal 1.2 *Low* *High*		FA
.4	Measurement Value - aRMS	ro	Integer	16 bit	88			*0.01 g*	Indicates the current measurement value of measurement data channel 2 - aRMS.		FA
.5	SSC2.1	ro	UInteger	8 bit	80		*0* *1*		Indicates the current status of the switching signal 2.1 *Low* *High*		FA
.6	SSC2.2	ro	UInteger	8 bit	72		*0* *1*		Indicates the current status of the switching signal 2.2 *Low* *High*		FA
.7	Measurement Value - aPeak	ro	Integer	16 bit	56			*0.01 g*	Indicates the current measurement value of measurement data channel 3 – aPeak		FA
.8	SSC3.1	ro	UInteger	8 bit	48		*0* *1*		Indicates the current status of the switching signal 3.1 *Low* *High*		FA
.9	SSC3.2	ro	UInteger	8 bit	40		*0* *1*		Indicates the current status of the switching signal 3.1 *Low* *High*		FA
.10	Measurement Value - Temperature	ro	Integer	16 bit	24				Indicates the current measurement value of measurement data channel 4 – Temperature		FA

Observation

Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
.11	SSC4.1	ro	UInteger	8 bit	16				Indicates the current status of the switching signal 4.1		FA
							0		Low		
							1		High		
.12	SSC4.2	ro	UInteger	8 bit	8				Indicates the current status of the switching signal 4.2		FA
							0		Low		
							1		High		
.13	Maintenance Warning	ro	UInteger	8 bit	0				Indicates that at least one of the configured maintenance limits has been exceeded.		FA
							0		Low		
							1		High		

NOTE 1: The parameter data provide the attributes DS (Data Storage) and R (Reset behavior). The following rules apply:
  DS: Parameter marked with 'Y' (yes) are exchanged with the master via the data storage mechanism.
  R: Parameter marked with 'F' are reset to the default value upon reception of the command 'Back-to-Box'.
  R: Parameter marked with 'A' are reset to the default value upon reception of the command 'Application Reset'.
  R: Parameter marked with 'M' are reset to the default value upon reception of the command 'Maintenance Reset'.

NOTE 2: Parameter with datatype Record or Array, which are marked with 'S0' can only be accessed over subindex 0 (whole parameter object). Subindex access to single items is not possible.

Command Interface

Index	Parameter	Access	Data type	Length	Value	Description
2 (0x02)	System Command	wo	UInteger	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 parameter of the technology-specific application are set to default values. Identification parameter 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 parameter of the device are set to factory default values and communication will be inhibited until the next power cycle. Note: Directly detach the device from the master port!
176 (0xB0)	Maintenance Reset	Reset the maintenance status and maintenance monitor data.

Error Codes

Code	Additional code	Name	Description
128 (0x80)	17 (0x11)	Index not available	Read or write access attempt to a non-existing index.
128 (0x80)	18 (0x12)	Subindex not available	Read or write access attempt to a non-existing subindex of an existing index.
128 (0x80)	32 (0x20)	Service temporarily not available	Parameter not accessible due to the current state of the technology-specific application.
128 (0x80)	33 (0x21)	Service temporarily not available - local control	Parameter not accessible. The device is currently in an ongoing, locally controlled operation.
128 (0x80)	34 (0x22)	Service temporarily not available - device control	Parameter not accessible. The technology-specific application is currently in a remotely triggered operation.
128 (0x80)	35 (0x23)	Access denied	Write access to a read-only parameter or read access to write-only parameter.
128 (0x80)	48 (0x30)	Parameter value out of range	Written parameter value is outside of the permitted value range.
128 (0x80)	49 (0x31)	Parameter value above limit	Written parameter value is above its specified value range.
128 (0x80)	50 (0x32)	Parameter value below limit	Written parameter value is below its specified value range.
128 (0x80)	51 (0x33)	Parameter length overrun	Written parameter is longer than specified.
128 (0x80)	52 (0x34)	Parameter length underrun	Written parameter is shorter than specified.
128 (0x80)	53 (0x35)	Function not available	Written command is not supported by the technology-specific application.
128 (0x80)	54 (0x36)	Function temporarily unavailable	Written command is unavailable due to the current state of the technology-specific application.
128 (0x80)	64 (0x40)	Invalid parameter set	Written single parameter value collides with other existing parameter settings.
128 (0x80)	65 (0x41)	Inconsistent parameter set	Parameter set inconsistencies at the end of block parameter transfer. Device plausibility check failed.

Event Codes

Code	Type	Name	Description
36097 (0x8D01)	Warning	Maintenance request	The limit for a configured maintenance cycle has been reached. - Check sensor and execute required maintenance actions.
36163 (0x8d43)	Warning	Ambient temperature outside specified temperature range	Check device environment.