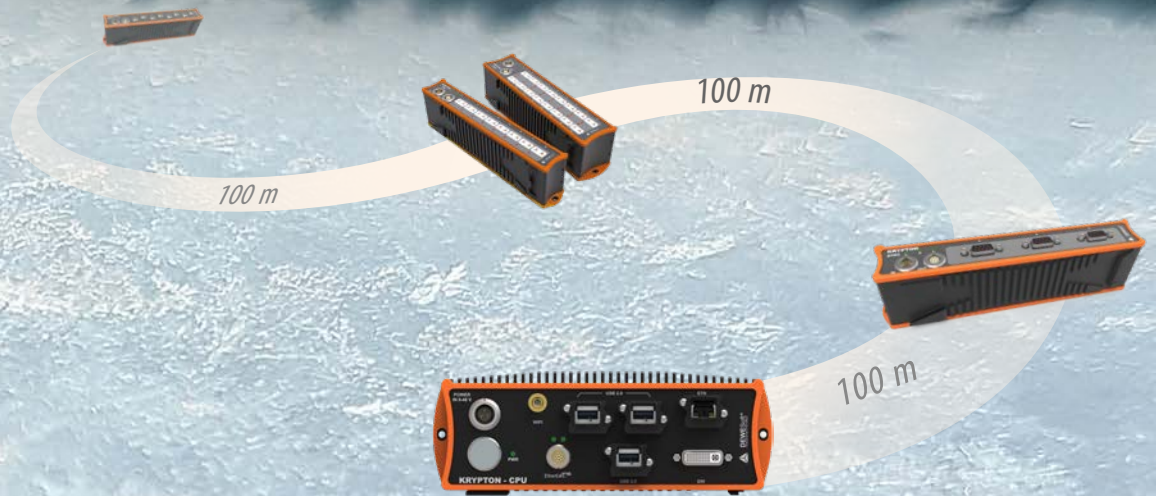


INSTRUMENTS

KRYPTON®

the EtherCAT® modules for harshest environments

67



KRYPTON® CPU rugged computer

CPU	Intel Atom Quad Core E3845-4G
RAM	4 GB
Storage	256 GB SATA SSD
USB	3x USB 2.0
Ethernet	1x GLAN (Snap-In), 1x WLAN
EtherCAT®	100 Mbps Full Duplex, L1T8f (Lemo)
Video	DVI-D
Power supply	9 .. 48 V
Operating Temperature	-40°C .. 70°C
Dimension (W x D x H)	231 x 77 x 57 mm



	KRYPTONI 8x TH, 16x TH	KRYPTONI 8xRTD	KRYPTON 3xSTG, 6xSTG	KRYPTONI 4x LV, 8x LV
				
ANALOGUE INPUTS				
Input channels	8 (16) isolated universal thermocouple and voltage	8 isolated universal PTx temperature, resistance and voltage	3 (6) differential voltage or strain	4 or 8 isolated voltage
Input signals	TC types: K, J, T, R, S, N, E, C, U, B / Voltage: 1 V and 100 mV	PT-types: PT100, PT200, PT500, PT1000, PT2000 Resistance: 500 Ω and 10 kΩ Voltage: 1 V and 100 mV	Voltage: 10 V; 1 V, 100 mV or 10 mV; Strain: 2 .. 1000 mV/V programmable; 1/1; 1/2 and 1/4 Bridge; Excitation: 1 .. 15V programmable, max. 0.4 W/channel	+/- 100 V
Input connector	mini Thermocouple connector (cu)	LEMO 0B 6-pin	DSUB 9pin	BNC
Sampling rate	Maximum 100 Hz per channel (software selectable)	Maximum 100 Hz per channel (software selectable)	Maximum 20 kHz per channel (software selectable)	10 kHz per channel (software selectable)
ADC type	24 bit sigma delta	24 bit sigma delta	24 bit sigma delta	24 bit sigma delta
Input impedance	>100 MΩ	>10 MΩ	10 MΩ	1 MΩ
Isolation voltage peak	1000 V channel/ground & channel/channel	1000 V channel/ground & channel/channel	-	1000 V channel/ground & channel/channel
Resolution	<0.001 deg. C	<0.001 deg. C	-	0.01 mV
Accuracy	TC: ±0.02% of reading ±0.5 °C ±10 µV Voltage: ±0.02% of reading 10 µV	Temperature: ±0.05°C Voltage: ±0.02% of reading ±10 µV	±0.03% of reading ±0.02% of range ±0.1mV	±0.03% ±5mV
Gain drift over temperature	typ. 3ppm/K (max. 10 ppm/K)	typ. 3ppm/K (max. 10 ppm/K)	typ. 10ppm/K (max. 40 ppm/K)	typ. 10ppm/K (max. 20 ppm)
Offset drift over temperature	0.03 µV/K	0.03 µV/K	typical 0.3 µV/K + 5 ppm of range/K	10 µV/K
GENERAL SPECS				
Noise	0.25 µVrms (=0.007°Crms@Type K)@10 S/s 0.7µVrms (=0.02°Crms@Type K)@100 S/s	0.25 µVrms @ 10 S/s 0.7 µVrms @ 100 S/s	up to 100 dB	0.7 mVrms
Interface	LEMO 1B Ethercat cable (single cable connection power + sync + data)	LEMO 1B Ethercat cable (single cable connection power + sync + data)	LEMO 1B Ethercat cable (single cable connection power + sync + data)	LEMO 1B Ethercat cable (single cable connection power + sync + data)
Data rate	100 Mbit bus speed	100 Mbit bus speed	100 Mbit bus speed	100 Mbit bus speed
Power supply voltage	6 to 50 V DC	6 to 50 V DC	6 to 50 V DC	6 to 50 V DC
Power consumption	3 W (8xTH), 4 Watt (16xTH)	3 W	3.5 W (3xSTG), 5 Watt (6xSTG)	2.5 W (4xLV), 3 W (8xLV)
Dimensions	200x50x30 mm (8xTH) / 200x50x45 mm (16xTH)	200x50x30 mm	200x50x30 mm (3xSTG) / 200x50x45 mm (6xSTG)	200x50x30 mm (4xLV) / 200x50x45 mm (8xLV)
Weight	Typically 650 g (8xTH) / Typically 900 g (16xTH)	Typically 900 g	Typically 650 g (8xTH) / Typically 900 g (16xTH)	Typically 650 g (4xLV) / Typically 900 g (8xLV)
Environmental rating	IP67	IP67	IP67	IP67
Shock & Vibration Rating	> 100 g	> 100 g	> 100 g	> 100 g
Temperature range	-40 ... 85 deg. C	-40 ... 85 deg. C	-40 ... 85 deg. C	-40 ... 85 deg. C



DIGITAL INPUTS			
Input channels (isolated)	16	8	-
Compatibility	CMOS Configuration		-
Input low level	UIN < 0.8 V		-
Input high level	UIN > 2.4 V		-
Input high current @ 5 V UIN	< 1.8 mA		-
Propagation delay	< 1 µsec		-
Sampling rate	Maximum 20 kHz per channel (software selectable)		-
Overvoltage protection	40 V continuous (65 V peak)		-
Isolation voltage peak	250 V channel/ground & channel/channel		-
DIGITAL OUTPUTS			
Input channels (isolated)	-	8	16
Compatibility	-	Open collector with 10 kR pull-up to +5 V	
Maximum sink current	-	150 mA (not protected)	
Maximum switching voltage	-	50 V	
Propagation delay	-	< 20 µsec	
Maximum update rate	-	Depending on EtherCAT master	
Isolation voltage peak	-	250 V channel to ground, no channel to channel isolation	
GENERAL SPECS			
Interface	LEMO 1B EtherCAT cable (single cable connection power + sync + data)		
Data rate	100 Mbit bus speed		
Power supply voltage	6 to 50 V DC		
Power consumption	2 Watt (all types)		
Dimensions	200x50x30 mm		
Weight	Typically 600 g		
Environmental rating	IP67		
Shock & Vibration Rating	> 100 g		
Temperature range	-40 ... 85 deg. C		

EtherCAT® ADVANTAGES:

- ▶ Fully compatible with ETHERNET hardware
- ▶ Power supply, data lines and Hardware A/D - synchronization in ONE cable



DEWESoft® USER ADVANTAGE:

- ▶ Easy plug and play hardware recognition.
- ▶ **NO IP address search.**
- ▶ **ONE USER INTERFACE** for all DEWESoft® hardware.

