

Product information

Computer Controlled Measurement Amplifiers

Ethernet Compact Modules

Characteristics

The SIQUAD *Ethernet Compact Modules* offer computer-controlled signal conditioning of various sensors. There are sensor-specific amplifiers available with 1 DSP per amplifier unit. Signal output is digital via TCP/IP. Parameter setting is done with the software DaSoft. Signal filtering can be configured from 3..3000 Hz at 20 kS/s sample rate.



Technical Data

General	Accuracy	see sensors
	Channels/unit	4, 2x4, isolated (8, 2x8, isolated inputs with common ground)
	AD converter	24 bit / channel
	Sample rate	max. 20 kHz
	Band width	max. 5 kHz
	Digital output	Ethernet
	Input protection	± 100 V, ESD IEC 1000-4-2
	Supply voltage	9..36 V DC
Environmental temperature	0..+50 °C	

Strain gauge bridges (DMS4)	Range	0.5, 1, 2, 4, 5, 10, 25, 50 mV/V
	Accuracy	± 0.03 %
	Sensor supply	0.5, 1, 2.5, 4.5 V (> 120 Ω)
Type of bridge	full bridge, half bridge, (> 120 Ω) quarter bridge (optional, >120 Ω)	

Voltage (DCU4)	Range	0.01 / 0.02/ 0.05 / 0.1 / 0.2 / 0.25 / 0.3 / 0.5 / 0.6 / 1 / 2 / 5 / 10 / 20 / 50 / 100 V
	max. input voltage	100 V
	Accuracy	± 0.03 %

Signal current (DCI4)	Range	± 20 mA, 4..20 mA
	Accuracy	± 0.05 %

Thermocouples J,K (TC4-K, TC4-J)	Range	-100 to +100, +200, +500, +1000 (1200) °C
	Accuracy	± 0.2 % (with CJC)

Pt100 (Pt1004)	Range	-100 to +100, +200, +500, +1000 °C
	Accuracy	± 0.1 %

ICP® Sensors (ICP4)	Range	1, 2, 5, 10 V
	min. input frequency	appr.. 2 Hz
	Accuracy	± 0.1 %
	Sensor supply	4 mA, 24 V

FU converter	Range	5, 10, 20, 50, 100, 200, 500 Hz, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 kHz
	resolution	min. 12 bit
	max. dynamics	10 kHz
Incremental encoder	Range	100..10 ⁶ pulses
	resolution	16 bit
	max. counter frequency	1 MHz
Sensor supply	unregulated (± 15 %) 2 W (Socket)	1 value: 3.3, 5, 9, 12, 15, 24 V
	regulated (± 5 %) 3 W (soldered)	1 value: 3.3, 5, 12, 15 V

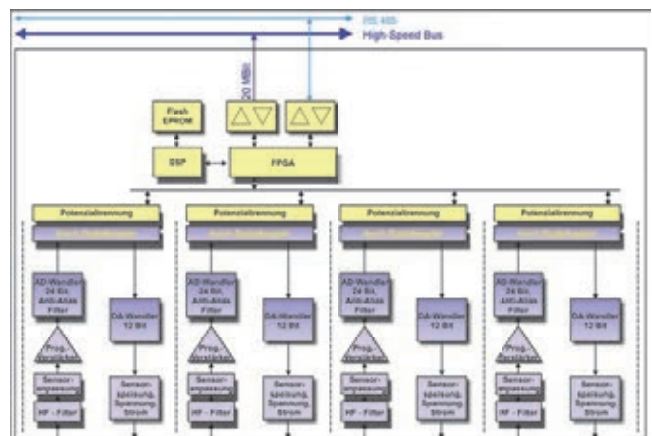
Inputs as 8 DI (opto decoupled) (DIO8)	High-level	+ 3.5..60 V
	Low-level	- 30..+1 V
	Input current	appr. 6 mA (0..30 V) 6..36 mA (-30..+60 V)
max. input frequency	20 kHz	

Inputs as FV converter max. 4 (DIO8)	Range	5, 10, 20, 50, 100, 200, 500 Hz, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 kHz
	resolution	min. 12 bit
	max. dynamics	10 kHz

Inputs as Incremental counter, max. 4 (DIO8)	Range	100..10 ⁶ pulses
	resolution	16 bit
	max. counter frequency	1 MHz

Outputs as relay contacts (DIO8)	Switch currents	max. 2 A or 10 A
	Switch voltage	max. 220 V DC
	Switch power	max. 60 W
	Contact resist.	50 mΩ
	max. output frequency	appr.. 15 Hz
	Switching cycles	mechanical min.10 ⁸ electrical min. 10 ⁵

Block Diagram



Dimensions

SEC1: 130 x 250 x 45 mm, 130 x 130 x 45 mm (WxHxD)
 SEC2: 130 x 250 x 75 mm, 130 x 130 x 75 mm (WxHxD)

Product information

Computer Controlled Measurement Amplifiers

Ordering Code

Only available at present:

SEC1 - ^{1.} - ^{2.} ^{3.} ^{4.}

1. Sensor type 1 amplifier unit	
DMS4	4 channels Strain Gauge
ICP4	4 channels ICP
DCU4	4 channels Voltage
DCI4	4 channels Signal Current
TC4	4 channels Thermo Couple
FU2	2 channels frequency converter
DIO8	8 channels Digital I/O
2. Connection (not all combinations sensor-socket type are possible!)	
BNC	BNC socket
BB5	5-pin Binder socket
BB7	7-pin Binder socket
LB7	7-pin Lemo socket
3. Housing type	
HL	Box (standard)
LL	Flange
TL	Mounting rail
4. Option	
1/4 BR	1/4-bridge with 2 resistance values (120, 350 Ω) switchable (DMS4 only)
1200	Range 1200 °C (TC4/TC8 only, only TC type K)
XG	Sensor supply, regulated, soldered 3.3, 5, 12, 15 V, ± 5 % (FU2 only)
XU	Sensor supply, unregulated, socketed 3.3, 5, 9, 12 ² , 15, 24 V, ± 15 % (FU2 only)

2 Standard value, without option 12V unregulated will be shipped