

**Product Information**

# 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

<b>General</b>	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	

<b>Strain gauge bridges (DMS4)</b>	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)

<b>Voltage (DCU4)</b>	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 %

<b>Signal current (DCI4)</b>	Range	± 20 mA, 4..20 mA
	Accuracy	± 0.05 %

<b>Thermo-couples J,K (TC4-K, TC4-J)</b>	Range	-100 to +100, +200, +500, +1000 (1200) °C
	Accuracy	± 0.2 % (with CJC)

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

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

<b>FU converter</b>	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
<b>Incremental encoder</b>	Range	100..10 <sup>6</sup> 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

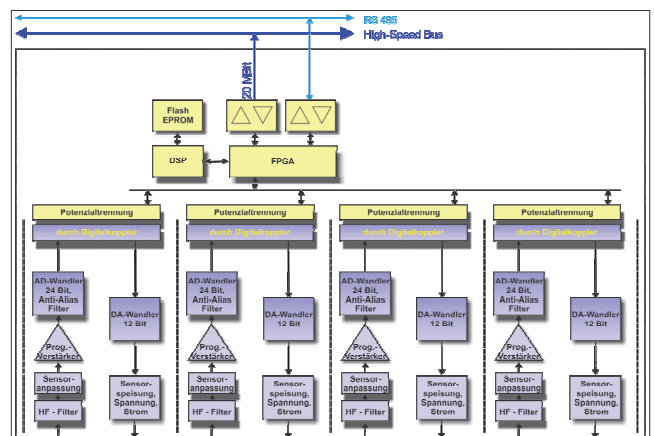
<b>Inputs as 8 DI (opto decoupled) (DIO8)</b>	High-level	+ 3.5..60 V
	Low-level	- 30..+1 V
	Input current	appr. 6 mA (0..30 V) 6..36 mA (-30..+60 V)
	max. input frequency	20 kHz

<b>Inputs as FV converter max. 4 (DIO8)</b>	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

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

<b>Outputs as relay contacts (DIO8)</b>	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 <sup>8</sup> electrical min. 10 <sup>5</sup>

## 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**

**Ordering Code**

Only available at present:

SEC1 - <sup>1.</sup> - <sup>2.</sup> <sup>3.</sup> <sup>4.</sup>

<b>1. Sensor type 1 amplifier unit</b>	
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
<b>2. Connection</b> (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
<b>3. Housing type</b>	
HL	Box (standard)
LL	Flange
TL	Mounting rail
<b>4. Option</b>	
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, <b>12<sup>1</sup></b> , 15, 24 V, ± 15 % (FU2 only)

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