



ConditionSensor Interface CSI-C-11

Description

The ConditionSensor Interface CSI-C-11 is used to transmit digital and analogue sensor signals from HYDAC fluid sensors into network and fieldbus protocols (e.g. Modbus®) which can then be transmitted to a stationary (e.g. desktop PC) or mobile device (e.g. smart phone) via network cable (LAN) or wireless connection (WLAN). Furthermore, the CSI-C-11 has a 64 MB internal memory which enables the interface module to be used as a data logger.

Depending on the device type, up to two HYDAC SMART sensors and four analogue sensors can be connected to the interface module and supplied with voltage. The CSI-C-11 is also equipped with a fieldbus/Ethernet connector which enables connected sensors to be integrated into company networks or higher-level condition monitoring systems (CMS), control systems (PLC) and process control systems (SCADA).

Special features

- 2 input channels for HYDAC SMART sensors (e. g. fluid sensors)
- 4 input channels for analogue sensors (optional)
- Direct connection of the sensors via M12X1 connectors
- Simple network and system integration via network connection (M12x1)
- Wireless transfer and display of sensor readings via WLAN and FluMos / FluMos mobile
- Measurement data is stored in the CSI-C-11 along with the date and time (data logger)
- Parameterisation of the interface (e.g. IP address, subnet mask) is possible via WLAN and FluMos mobile
- Integrated assembly plate for wall mounting or direct mounting on the HYDAC ConditionSensor Module CSM Economy
- High protection class with IP 66, no switch cabinet is required

Technical details

Input data	
HSI interface	HYDAC Sensor Interface for the connection of 2 digital HYDAC SMART sensors
Analogue interface	Sensor Interface for the connection of 4 analogue sensors (type can be selected): – Current: 4 to 20 mA (ohmic resistance 500 Ω) 0 to 20 mA (ohmic resistance 500 Ω) – Voltage: 0 to 10 V, 0 to 5 V, 2 to 10 V, 1 to 5 V Measurement inaccuracy < 0.2 % Full Scale (FS)
Output data	
– Ethernet 10 Base-T / 100 Base-TX	Protocol: – HSI TCP/IP (port 49322): ETH/ WLAN
– WLAN (HSI only) 2.4 GHz, IEEE 802.11 b/g/n	– Modbus® TCP (port 502): ETH
– RS485 (2 wire, half duplex)	– Modbus® RTU: RS485
Ambient conditions	
Operating temperature range	-25 to 85 °C
Storage temperature range	-30 to 85 °C
Relative humidity	0 to 70 %, non-condensing
CE marked	EN 61000-6-2, EN 61000-6-4
Protection class according to DIN 40050	IP 66
Other data	
Supply voltage	12 to 24 V DC ± 10 %
Current consumption (module)	100 mA (including connected sensors)
Sensor supply	12 to 24 V DC (looped through)
Electrical connection	– Supply voltage: male connector, M12, 5-pin – SMART sensor 1 and analogue sensors 1 – 4: female connector, M12, 8-pin – SMART sensor 2: female connector, M12, 5-pin – LAN: female connector, M12, 4-pin, D-coded (in accordance with IEC61076-2-101) – WLAN antenna: connector, RP SMA socket, female
Parameterisation	via connector plug M12x1, 5-pin, in accordance with DIN VDE 0627 or WLAN (FluMoS mobile)
Housing dimensions	131 x 77.5 x 35.5 mm
Housing	Aluminium housing
Weight	≈ 360 g
Internal measurement data memory	
Size	64 MB
Measurement interval 60 s	> 1300 days (CS1000 + HLB1400)
Measurement interval 60 min	> 83000 days (CS1000 + HLB1400)

Model code

CSI - C - 11 - 0 - 0 - 0 / - 000

Product series

CSI = ConditionSensor Interface

Housing

C = Metal housing, compact

Signal output (protocol) 1

11 = Ethernet (Modbus[®] TCP, HSI TCP/IP)
WLAN (HSI TCP/IP)

Signal output (protocol) 2

0 = RS485 (Modbus[®] RTU)

Signal output (protocol) 3

0 = None

Signal input

0 = 2 x HSI
1 = 2 x HSI and 4 x analogue

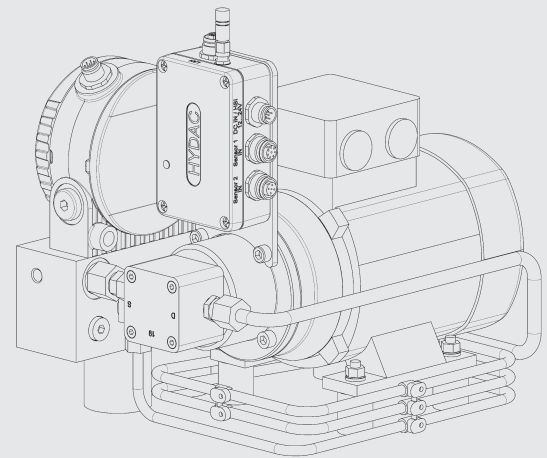
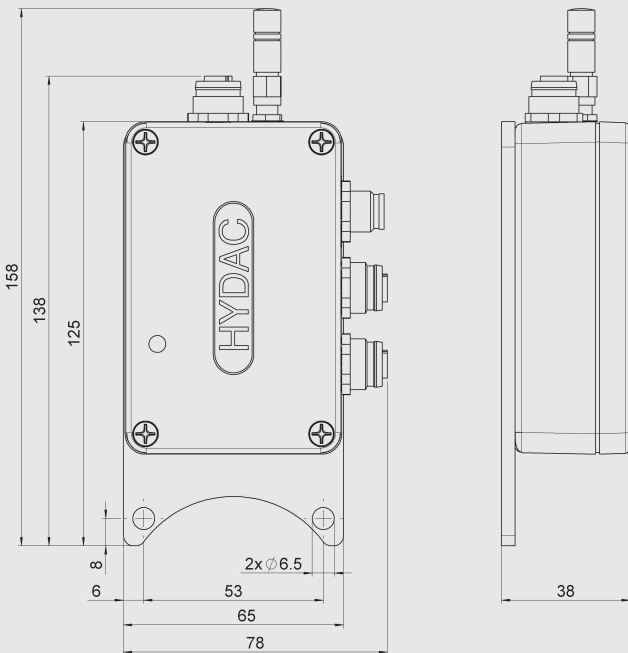
Modification

000 = Standard

Dimensions

Application example:

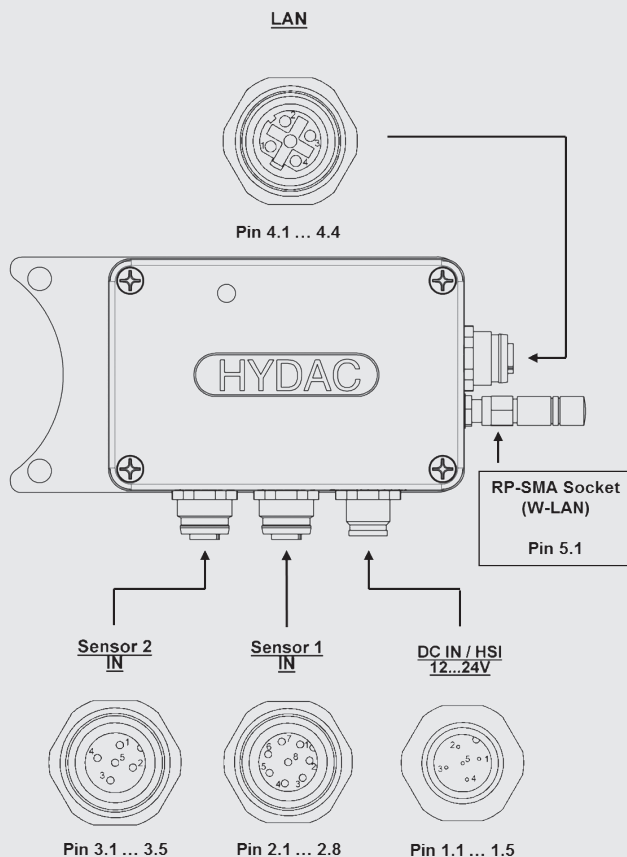
HYDAC ContaminationSensor Module CSM Economy



All dimensions in mm.

Pin connections

Pin	Signal	Description	
1.1	V _{in} 12 to 24 V DC	Device (CSI-C-11)	Supply voltage +
1.2	RS485 -	Fieldbus (RS485)	RS485 port for data transmission -
1.3	GND	Device (CSI-C-11)	GND supply voltage
1.4	RS485 +	Fieldbus (RS485)	RS485 port for data transmission +
1.5	HSI	Device (CSI-C-11)	Parameterisation
2.1	S1 12 to 24 V DC	SMART sensor 1	Supply voltage +
2.1	A1	Analogue sensor 1	Analogue input 1
2.3	S1 GND	SMART sensor 1	GND supply voltage
2.4	A2	Analogue sensor 2	Analogue input 2
2.5	S1 HSI	SMART sensor 1	HSI signal
2.6	A3	Analogue sensor 3	Analogue input 3
2.7	A4	Analogue sensor 4	Analogue input 4
2.8	A1 – A4 GND	Analogue sensor 1 – 4	GND supply voltage
3.1	S2 12 to 24 V DC	SMART sensor 2	Supply voltage +
3.2	---	---	not allocated
3.3	S2 GND	SMART sensor 2	GND supply voltage
3.4	---	---	not allocated
3.5	S2 HSI	SMART sensor 2	HSI signal input
4.1	ETH TX+	Network (LAN)	Ethernet port for data transmission +
4.2	ETH RX+	Network (LAN)	Ethernet port for receiving data +
4.3	ETH TX-	Network (LAN)	Ethernet port for data transmission -
4.4	ETH RX-	Network (LAN)	Ethernet port for receiving data -
5.1	ANT	Network (WLAN)	RP SMA socket, WLAN antenna



Accessories

Designation	Part no.
Supply voltage	
PS5 power supply unit 100 – 240 V AC, 50 – 60 Hz, 1.1 A, IP40; female connector M12, 5-pin	3399939
ZBE47S-05 connection cable, female connector, 5-pin, with cable, length = 5 m	3527626
ZBE48S-05 connection cable, male connector, 5-pin, with cable, length = 8 m	6070712
Connection cables for sensors	
ZBE43-005 connection cable CSI-C-11, male / female 8-pin, length = 0.5 m	4193544
ZBE43-05 connection cable CSI-C-11, male / female 8-pin, length = 5 m	3281240
ZBE30-005 connection cable CSI-C-11, male / female 5-pin, length = 0.5 m	4193586
ZBE30-05 connection cable CSI-C-11, male / female 5-pin, length = 5 m	6040852

Network cable (LAN)

ZBE 45-05 network cable (patch), female connector, 4-pin, D-coded / RJ45 male connector, length = 5 m	3346100
ZBE 45-10 network cable (patch), female connector, 4-pin, D-coded, / RJ45 male connector, length = 10 m	3346101

Connection adapter for additional sensors

ZBE CSI 60 sensor connection adapter 4 x analogue female connector, 8-pin, cable length = 1 m	4420372
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Preferred models

Designation	Part no.
CSI-C-11-0-0-0-000	4066011
CSI-C-11-0-0-1-000	4247534

Note

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

All technical details are subject to change without notice.

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