HYDAC INTERNATIONAL

# ConditionSensor Interface

## CSI-Connect (CSI-C-12)

## Description

**Seamless cloud integration**

The ConditionSensor Interface CSI-Connect is used to transmit analog sensor signals to cloud via cellular communication (i.e., LTE). With its integrated sim the CSI-Connect is easy to setup for a swift cloud integration.

Up to four analog sensors can be connected to the CSI-Connect via M12 connectors and supplied with power. The measured data can be transmitted directly into HYDAC CMX or other custom cloud databases through an application programming interface (API) - e.g., RestAPI or Webhooks.

The CSI-Connect is therefore an ideal tool for the central provision of online measurement data from condition-monitored aggregates and machines for the derivation of action recommendations and the implementation of modern maintenance strategies.

**NB! Requires subscription!**

## Special Features

- Four input channels for analog sensors
- Direct connection of the sensors via M12x1 connectors
- Wireless transmission of the measured values via LTE with 2g/3g fallback
- Optimized for HYDAC CMX (cloud) but can be used with any cloud database.
- Integrated mounting brackets for wall fastening or directly on the system (Accessory)
- High protection class with IP 65 – no switch cabinet required
- Ideal tool for the implementation of modern maintenance strategies

## Technical specifications

| | |
|---|---|
| **Input data** | |
| Analog Interface | Sensor Interface for coupling of<br>4 analog sensors (type selectable):<br>- Current:<br>4…20mA (load 500Ω)<br>0…20mA (load 500Ω)<br>- Voltage:<br>0…10V, 0…5V, 2…10V, 1…5V<br>Measurement error <0,6% Full Scale (FS) |
| **Output data** | |
| Wireless | |
| - LTE-CAT 1 with full 2G/3G fallback<br>Cat 1 bands supported:<br>1, 3, 7, 8, 20, 28A | Communication:<br>- Webhook (HTTPS push API) |
| **Ambient conditions** | |
| Operating temperature range | -20 … +65 °C |
| Storage temperature range | -30 … +80 °C |
| Relative humidity | 0 … 70%, non-condensing |
| CE - marked | EN 61000-6-2, EN 61000-6-4 |
| Protection class according to DIN 40050 | IP 65 |
| **Other data** | |
| Supply voltage | 24V DC ± 10% |
| Current requirement (module) | 100 mA with 1A bursts<br>(plus, connected sensors) |
| Sensor supply | 12 … 24 V DC (looped through) |
| Electrical connection | - Supply voltage:<br>Connector, M12, 5-pole, male<br>- Sensor 1-4:<br>Connector, M12, 5-pole, female<br>- Cellular antenna:<br>Connector, RP-SMA socket, female |
| Dimensions | 109 x 98 x 35 mm<br>(without antenna and mounting brackets) |
| Housing | Aluminium housing |
| Weight | ~ 250 g (without antenna) |

## Model code:

**CSI – C – 12 – 0 – 0 – 1 – 0 /-000**

**Product series**
CSI = ConditionSensor Interface

**Housing**
C = Metal housing compact

**Signal output 1 (wireless – wide area communication)**
12 = Integrated cellular communication (2G / 3G / 4G; LTE CAT M1)

**Signal output 2 (wireless – near field communication)**
0 = Without
1 = Bluetooth

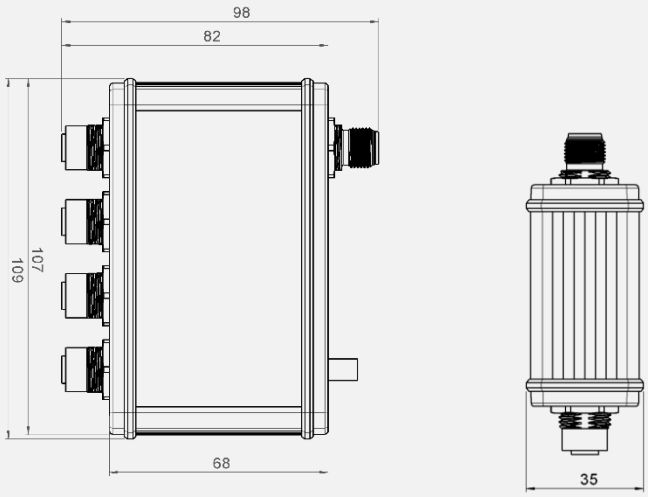
**Signal output 3 (hardwire)**
0 = Without

**Signal input**
1 = 4 x Analogue

**Area of use cellular communication**
0 = Europe
1 = North America

**Modification**
000 = Standard

## Dimensions:




All dimensions in mm

## Plug Pin Assignment

| Pin | Signal | Description | |
|---|---|---|---|
| 1.1 | $V_{in}$ 12 … 24 V DC | Device (CSI-C-12) | Supply voltage + |
| 1.2 | --- | --- | Not allocated |
| 1.3 | GND | Device (CSI-C-12) | GND supply voltage |
| 1.4 | --- | --- | Not allocated |
| 1.5 | --- | --- | Not allocated |
| 2-5.1 | 12 … 24 V DC | Analogue sensor 1-4 | Supply voltage +$U_B$ |
| 2.5.2 | --- | --- | Not allocated |
| 2-5.3 | Signal | Analogue sensor 1-4 | Analogue signal (input) |
| 2-5.4 | A1–A4 GND | Analogue sensor 1-4 | GND supply voltage |
| 2-5.5 | --- | --- | Not allocated |

## Accessories

| Designation | Part no. |
|---|---|
| **Supply voltage** | |
| PS5<br>power supply 100 – 240V AC, 50-60 Hz, 1,1 A, IP40; connector M12, 5-pole, female | 3399939 |
| ZBE47S-05<br>connecting cable, connector 5-pole with cable, length = 5m | 3527626 |
| **Sensor connection cable** | |
| ZBE30-005<br>connecting cable CSI-C-11, coupling / plug 5-pole, length = 0,5m | 4193586 |
| ZBE30-05<br>connecting cable CSI-C-11, coupling / plug 5-pole, length = 5m | 6040852 |
| **Mounting Accessories** | |
| Mounting Bracket for head rail and wall mounts | 4576601 |

## Preferred Models

| Designation | Part no. |
|---|---|
| CSI-C-12-0-0-1-0/-000 | 4576597 |

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

In the event of deviating applications and/or operating conditions, please contact the representative HYDAC department concerned.
Subject to technical modifications

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