CSI-Connect

Sensor-To-Cloud Device for seamless cloud integration of industrial sensors.

Operating Instructions

1 General

In this chapter, you will find helpful notes on handling these instructions.

1.1 Imprint

Manufacturer / publisher and responsible for the content:

Address of the manufacturer	**Contact address**
HYDAC A/S Havretoften 5 5500 Langeskov	HYDAC A/S Havretoften 5 5500 Langeskov
Denmark	Denmark
E-mail:	hydac@hydac.dk
Homepage:	https://www.hydac.dk/
Court of Registration:	The Courts of Denmark
Executive director:	Jens Haugaard

Table 1: Impressum

1.2 Documentation Representative

The contact data of the person authorized with the documentation is:

Mr Casper Ladeby HYDAC A/S Havretoften 5 5500 Langeskov Denmark	
Phone:	+45 93 63 64 55
E-mail:	casper.ladeby@hydac.dk

Table 2: Documentation Representative

1.3 Purpose of this manual

Before you use this product for the first time or if you have been asked to carry out other work on the product, please read this manual.

The use and the handling of the product described in the following, are not self-explanatory and are described in detail in this manual and the associated technical documentation.

This manual will help you to use the product as intended, properly, effectively, and safely. Therefore, you are requested to read the following chapters attentively and carefully. Please refer to it every time you require decisive details.

This manual informs and warns you of risks, against which the risk reduction through the design and protective measures may not be effective or not fully effective.

1.4 Target group of the manual

This manual was created for the following target group.

Target group	Tasks
Owner	This manual and the associated documents must be kept accessible at the installation location and for later use. Ask the employees to read and follow the manual and the associated documents, in particular the safety and warning instructions. Observe the additional product-related instructions and requirements.
Specialist personnel	Read, observe, and follow this manual and the associated documents, in particular the safety and warning instructions.

Table 3: Target group

1.5 Target group – Required qualifications/training

Persons who work on the equipment must be aware of the hazards associated with its use.

These operating instructions are intended for:

Auxiliary personnel:	Such persons have been instructed about the sensor and informed about potential hazards that can result from improper use.	
Specialist personnel:	Such persons have corresponding specialist training and several years' work experience. They can assess and perform the work assigned to them; they are also able to recognize potential dangers.	
Life phase	Person	Required knowledge
Transport / Storage	Auxiliary Personnel	No specialist knowledge required.
Electrical installation, commissioning, troubleshooting, decommissioning	Specialist electrician	Safe handling/use of tools. Fitting and connection of electrical lines. Knowledge of network communication. Knowledge of using Windows PCs and of program installation. Product-specific knowledge.
Operation, operations control	Specialist	Knowledge of using Windows PCs/mobile end devices. Product-specific knowledge.
Dismantling disposal	Specialist	Proper and environmentally friendly disposal of materials and substances. Knowledge about reuse.

Table 4: Required qualifications/training

1.6 Illustrations in the manual

You will find illustrations in this manual. You can find details regarding these in the following chapters.

	Please note that you can directly access information through the directories. However, this does not release you from the obligation to read this manual fully before commissioning.

The document no. with the index (4) is meant for identifying and reordering the manual. The index is incremented every time the manual is revised or changed.

The manual contains a table of contents, a list of tables and figures, an index, and a glossary.

1.6.1 Representation of requirements

The following conditions are absolutely required for carrying out a work activity on the product. They are in bold in the text and accentuated with a check mark.

An example for the representation of requirements:

- ✓ **The product is assembled and connected.**
- ✓ **The product is switched off**
  1. Switch the product on

1.6.2 Representation of procedural instructions

In the case of procedural instructions, there are the two following representations:

1.6.3 Procedural instructions with a fixed sequence

Procedural instructions, whose sequence must be complied without fail, are listed with sequential numbering (1., 2., 3., etc.).

An example for procedural instructions with a fixed sequence:

1. Remove the transport securing device.
2. Fill the product.
3. Switch the product on.

1.6.4 Procedural instructions with a random sequence

Procedural instructions that have a random sequence are listed as bullet points (●).

An example of a procedural instruction with a random sequence.

- Clean the display
- Rinse the product.

1.6.5 Representation of intermediate results / end results

In the case of some activities, it is necessary to carry out work steps with intermediate results and end results.

Intermediate results are the consequence of activities; they are marked with an indented arrow.

End results represent the end of an activity and are represented with a flag.

An example for a procedural instruction with intermediate result and end result:

1. Switch the product on.
   → The display lights up.
2. Press the button.

⚑ The product is now ready for use.

1.6.6 Representation of warning / general safety information

All the warning / general safety information in this manual are highlighted with pictograms and signal words. The pictogram and the signal word give you an indication of the severity of the danger. Warning / general safety information, which are placed ahead of each activity, are represented as follows:

Hazard symbol

CAUTION

Type and source of danger

Consequence of the danger

► Measures to avert danger

1.6.7 Signal words and their meaning in the safety information and instructions

In these instructions you will find the following signal words:

DANGER

DANGER – The signal word indicates a hazardous situation with a high level of risk, which, if not avoided, will result lethal or serious injury.

WARNING

WARNING – The signal word indicates a hazardous situation with a medium level of risk, which, if not avoided, can result lethal or serious injury.

CAUTION

CAUTION – The signal word indicates a hazardous situation with a low level of risk, which, if not avoided, can result in minor or moderate injury.

NOTICE

NOTICE – The signal word indicates a hazardous situation with a high level of risk, which, if not avoided, will result in damage to property.

1.7 Representation/explanation of pictograms

The following are the safety symbols / pictograms. They indicate specific dangers to persons, property or to the environment. Observe these safety symbols / pictograms and act with particular caution in such cases. Always keep all symbols / pictograms intact and legible.

Warning signs used

These signs are listed for all safety information and instructions in these operating instructions which indicate particular hazards to persons, property or the environment.

Danger point warning

Dangerous electrical voltage warning

Signs used for giving orders

These symbols are listed for all safety information and instructions in these operating instructions which indicate particular hazards to persons, property or the environment.

Follow the instructions.

Sign used for the required specialist personnel

These symbols show the required training/knowledge for installation work and/or maintenance work.

Specialist personnel – Electrician
Such persons have specific specialist training and several years' work experience. They are able to assess and perform the work assigned to them, they are also able to recognize potential hazard.

1.7.1 Supplementary symbols

You will find the following symbols in the manual as additional details:

	Tip for handling the product
	Required tools

1.8 Exclusion of liability/warranty

For the warranty provided by Hydac A/S, please refer to the Terms of Delivery. They are made available to you at the conclusion of the contract at the latest. You will also find these under www.hydac.com -> General Terms and Conditions (T&C).

This manual was prepared to the best of our knowledge. Nevertheless, and despite the greatest care taken, it may contain errors. Therefore, please understand that in the absence of any provisions to the contrary hereinafter, our warranty and liability – for any legal reasons whatsoever – are excluded in respect of the information in this manual. In particular, we shall not be liable for loss of profit or other financial loss.

This exclusion of liability does not apply in cases of intent and gross negligence. Moreover, it does not apply to defects which have been deceitfully concealed or whose absence has been guaranteed, nor in cases of culpable harm to life, physical injury, and damage to health. If we negligently breach any material contractual obligation, our liability shall be limited to foreseeable damage. Claims due to the Product Liability shall remain unaffected.

1.9 Notes on copyright

1.10 Validity of this manual

The diagrams and visualizations in this manual are meant for general illustration purposes. Therefore, representations and functional options can deviate from the delivered product.

We reserve the right to change the contents of this manual without prior notice.

2 General safety information

The following residual risks can occur through intended use:

NOTICE

Wrong sensor

Erroneous or no communication.

- Connect the CSI-Connect only with Permitted HYDAC SMART sensors or the permitted analogue sensors.
- Ensure correct pin-wiring of the connected analogue sensors.

NOTICE

Connection of more than 4 permitted analogue sensors.

Erroneous or no communication

- Connect a maximum of 4 permitted analogue sensors to the CSI-Connect

NOTICE

Exceeding the maximum permissible line length

Erroneous or no communication.

- Observe the maximum permissible line lengths.

3 Product overview

The Condition Sensor Interface CSI-Connect is used to transmit analogue sensor signals to the cloud through cellular communication (i.e. LTE/4G), which can be transmitted to CMX or custom cloud databases through API's (i.e. RestAPI or Webhooks).

At the interface module – depending on the model –, four analogue sensors can be connected and supplied with power.

The special features of the CSI-Connect include:

- 4 input channels for analogue sensors
- Direct connection of the sensors via 4 M12x1 connectors
- Easy system integration due to industrial network connectors (M12x1)
- Wireless transmission of the measured values via LTE with 2g/3g fallback
- Parameterization of the product (i.e. sensors, RESTapi) via cloud
- Integrated mounting brackets for wall fastening or directly on the system (accessory)
- Due to a high protection class of IP 65 no switch cabinet for installation required

3.1 Scope of delivery

The CSI-Connect comes packed, factory-assembled, and pre-set. Before starting up the CSI-Connect check that the content of the package is complete-

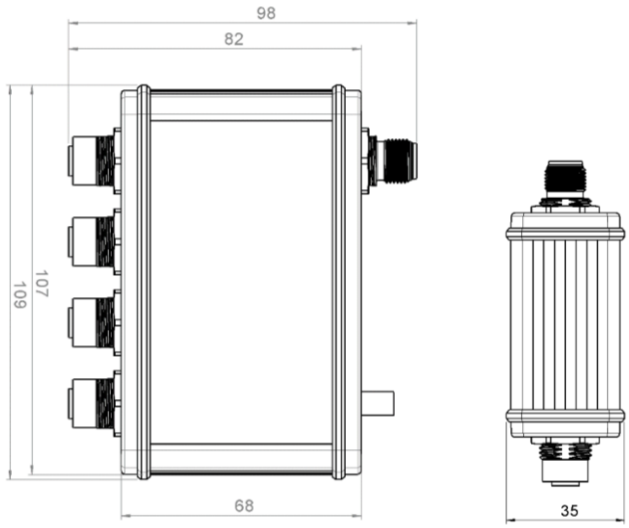
The following items are supplied:

Qty	Designation
1	CSI-Connect
1	LTE Antenna
1	Online Operating Instruction (QR Code on label)

Table 5: Scope of delivery

3.2 Dimensions

The CSI-Connect has the following dimensions in mm:



3.3 Proper/Designated Use

Use the ConditionSensor Interface CSI-Connect only for the application described in the following.

Depending on the device type, the ConditionSensor Interface CSI-Connect serves to implement digital (HYDAC SMART sensors with the timed analogue signals) and analogue sensor signals (e.g., 0…10V, 4…20mA) in cellular communication (i.e., LTE) transmitted to various cloud database and visualization platforms. Depending on the type of device, for example, four HYDAC SMART sensors or four analogue sensors can be connected, or any combination of the two totalling a maximum of four connected sensors at any time. The device is compatible with the following sensors:

Permitted HYDAC SMART sensors (Analog output only):

- CS1000 Series
- HYDACLab HLB1000 series

Permitted analogue sensors with analogue output:

- 4…20mA (load=500Ω)
- 0…20mA (load=500Ω)
- 0…10V DC
- 0…5V DC
- 2..10V DC
- 1..5V DC
- Example: Temperature measurement transformer, pressure measurement transformer, differential pressure sensor, volumetric flow sensor, or level sensors.

3.4 Improper Use or Use Deviating from Intended Use

Improper use or use deviating from intended use may result in hazards and/or damage the sensor. Examples of improper use or use deviating from intended use include:

- Operation with non-approved sensors.
- Operation with more than four analogue sensors.
- Modifications to the interface made by the user or purchaser.

3.5 Technical Data

The CSI-Connect has the following technical data:

Analog interface	Sensor interface for coupling of four analogue sensors (type selectable): • Current: ▪ 4…20 mA (load: 500 Ω) ▪ 0…20 mA (load: 500 Ω) • Voltage: ▪ 0…10 V ▪ 0…5 V ▪ 2…10 V ▪ 1…5 V Measurement accuracy < 0,6% Full Scale (FS)

Table 6: Input data

• **LTE-CAT 1 with 2G/3G fallback Cat 1 bands supported 1,3,7,8,20,28A**	Communication: • Webhook (HTTP push API)

Table 7: Outputs data

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 6100-6-4
Protection class according to DIN 40050	IP 65

Table 8: Ambient conditions

Supply voltage	12…24 V DC ± 10%
Current requirement (module)	100 mA with 1A bursts (plus, connected sensors)
Sensor supply	12…24 V DC (looped through)
Electrical connection	• Supply voltage: ▪ Connector, M12, 5-pole, male • Sensor 1-4: ▪ Connector, M12, 5-pole, female • Cellular antenna: ▪ Connector, RP-SMA socket, female
Parameterisation	Cloud Via Windows PC App
Dimensions	109 x 96 x 35 mm (Without antenna and mounting brackets)
Housing	Aluminium housing
Weight	~ 250 g (without antenna)

Table 9: Other data

3.6 Decoding the model code label

For identification details of the CSI, see the type-label. Always mention the part no. and the serial no. when contacting HYDAC.

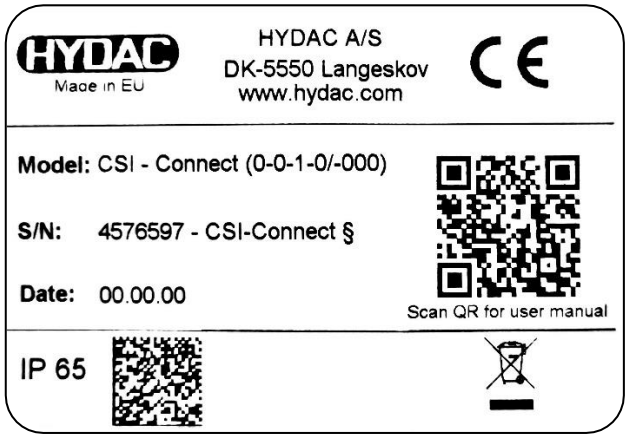


Figure 1: Type label

Row	Description
Model	For detail, se Model code [12]
S/N	Serial number - *(P/N-Year-Device no.)*
Date	Year/week of production – hardware index

Table 10: Decoding the model code label

3.7 Model code

The CSI-Connect has the following 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 communications
0 = Europe
1 = North America

Modifications
000 = standard

4 Storage and transport

Please transport the CSI-Connect packed in the packaging supplied.

Store the CSI-Connect in a clean, dry place, in the supplied packaging as far as is possible. Only remove the packaging just before installing the unit.

Observe the storage conditions given in Chapter Technical Data [11].

5 Assembly, installation, and commissioning

This chapter provides information on assembly, installation, and commissioning.

5.1 Assembling the CSI-Connect

The CSI-Connect is delivered pre-assembled. Before operation:

1. Connect the antenna.
2. Connect the desired sensors to the CSI-Connect analogue sensor channels 1 to 4.
3. Connect the device to power.

5.2 Connection overview

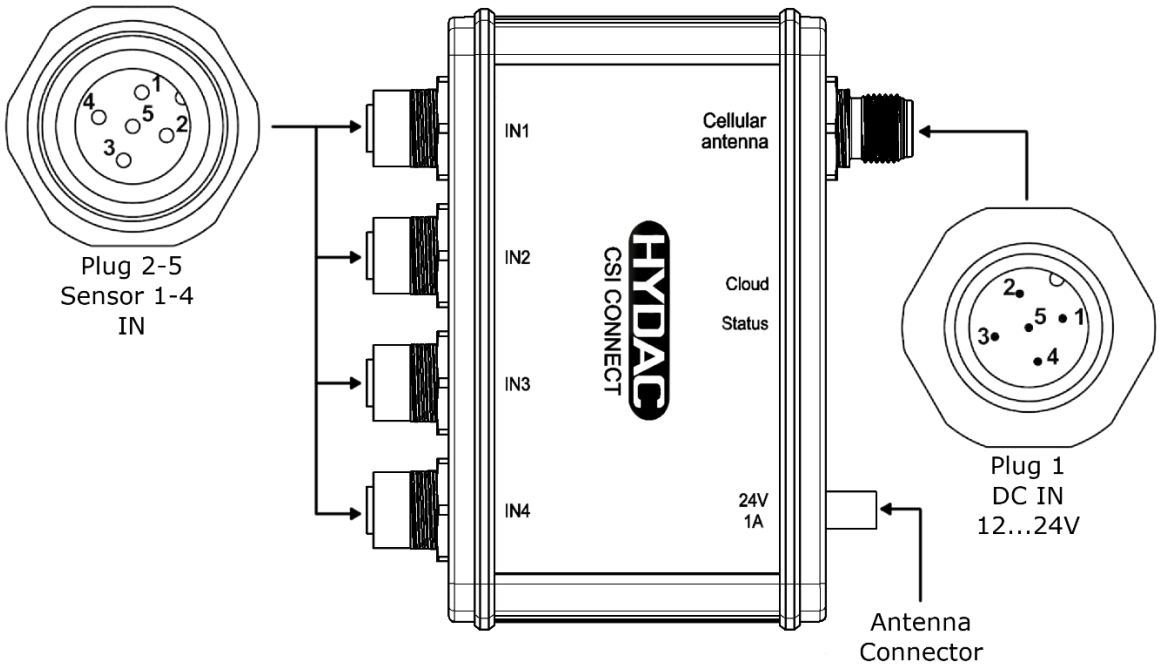


Figure 2: Connection overview

5.2.1 Plug Pin assignment

Pin	Signal	Description	
1.1	V_{in} 12 … 24 V DC	Device (CSI-Connect)	Supply voltage +
1.2	---	---	Not allocated
1.3	GND	Device (CSI-Connect)	Supply voltage GND
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	GND	Analogue sensor 1-4	GND supply vultage
2-5.5	---	---	Not allocated

Table 11: Plug Pin assignment

5.2.2 Connection example

Here, you will find a connection example for the CSI-Connect.

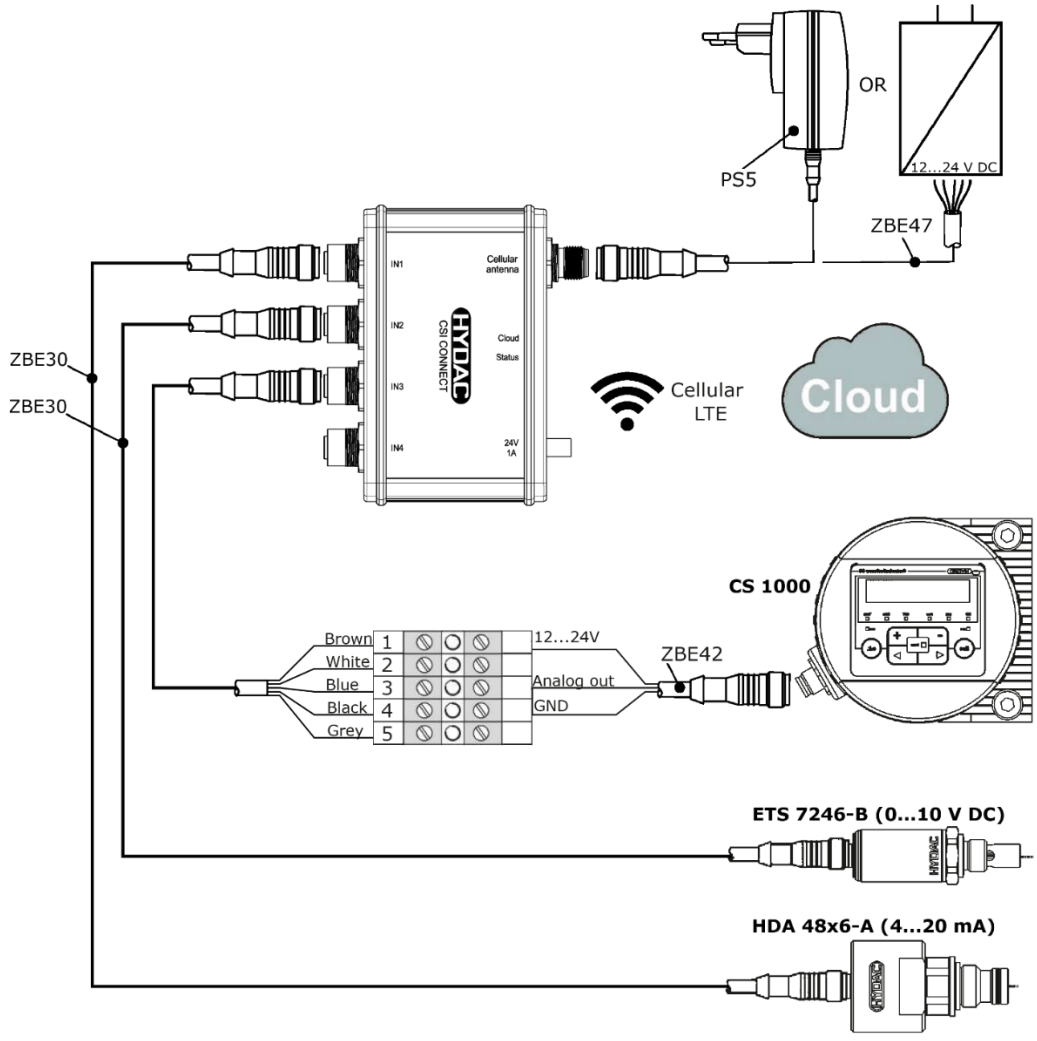


Figure 3: Connection example CSI-Connect - CS1000 - HDA48x6-A -ETS7246-B

5.3 Commissioning

Parametrise the CSI-Connect before operation according to the following chapter.

The CSI-Connect Setup Tool is required to parametrize the CSI-connect. The latest release of this tool is available for download from the following link: https://github.com/HydacDK/CSI-Connect-Setup-Tool-Release.

To install the tool, follow the instructions on the website.

5.3.1 Setting the CSI-Connect via the Cloud connection

Setting the CSI-Connect via the Cloud connection is the preferred method. This requires an account to manage the devices linked to you, Accounts can be created in the Setup Tool. It is recommended not to have too many Accounts per site as CSI-Connect devices will be bound to a single account and cannot be seen by other accounts.

To set the CSI-Connect via cloud connection, proceed as follows:

- ✓ The CSI-Connect must be turned on and the Cloud-LED must be breathing Cyan indicating that it is connected to the network.

1. Launch the Setup Tool on a windows PC connected to the internet.
2. If an account has not been created, create one using an E-mail you have access to. Creating an account will automatically sign you in. If you already have an account, sign in.
   → In the lower right corner, it should now say “Signed in”.
3. Click “Find Device Online” in the overview tab.
   → A dialog window will appear showing all CSI-Connect devices that are online and claimed to the account.
   - If setting up a new CSI-Connect, click “Add device” and enter the serial number of the CSI-Connect in question, click “OK”.
   - Choose the desired CSI-Connect from the list by clicking it, then click “OK”.

   → The dialog will close, and the name and ID will appear in the overview tab, and the drop-down menu in bottom left should say “Cloud” indicating the connection to the device using cloud.

The desired settings can now be entered by changing to the different tabs in the tool.

Note: Saving to - and reading from the CSI-Connect might take some time and the setup tool might stop responding while this is happening. When changing tabs, the settings on the tab are automatically loaded from the device.

This might make the tool seem unresponsive, which can be expected. Do not close the application.

For a more in-depth guide on the setup tool and process please see the CSI-Connect Setup Tool User Guide.

5.3.2 Setting a webhook

The CSI-Connect can send data to different software platforms including Hydac CMX but not limited to. To receive and display data, a webhook must be set that forwards the data to the chosen platform. This must be done in the CSI-Connect Setup Tool by following these instructions:

- ✓ The CSI-Connect must be turned on and the Cloud-LED must be breathing Cyan indicating that it is connected to the network.

1. Launch the Setup Tool on a windows device.
2. If not already done, set the CSI-Connect following the instructions in section 5.3.1.
3. Now go to the “Web Hook” tab.
   → This tab contains a list of existing webhooks. It will be empty if your account has no webhooks set up yet. It also contains three sub tabs “CMX integration”, “Custom Web Hook” and “Advanced”.

- For a CMX integration click the “CMX Integration” tab.
  - Enter the URL of your CMX server.
  - Enter username and password.
  - Enter the station and datapoint ID’s that the data should be pushed to
  - Click “Create New”

  Data will now be pushed to CMX.

- For all other integrations click either the “Custom Web Hook” or the “Advanced” tab:
  - In the “Custom Web Hook” tab:
    - Enter the URL of the endpoint to hit.
    - Choose the Request type from: POST, PUT, DELETE and GET. Most common is POST and PUT.
    - Choose whether the data should be in a JSON or plain text. (The difference is that if JSON is chosen, it is not possible to pass JSON objects as values).
    - Click “Create New”.

    Data will now be pushed to the entered URL.

  - In the “Advanced” tab:
    - This is for advanced users only.
    - Please read the documentation linked by the “Documentation” button before attempting this.

For more information on the creation of webhooks please see the CSI-Connect Setup Tool User Guide. Read the documentation by clicking on the “documentation” buttons in the tool.

6 Factory settings

The CSI is delivered with the following factory setting.

6.1 Description of the factory settings

You will find a description of the settings and the limit values here. They are ordered by Tab in the Setup tool.

Tab	Group	Name	Description
Sensors	Channel 1 to 4	Sensor	A pre-set for supported sensors, choose from supported sensor pre-sets or enter settings manually by choosing “Off/Manual”.
		Name	Name of the channel.
		Unit	Unit if the analogue channel.
		Type	Analog channel type can be selected between: - Off - 4 - 20 mA - 0 - 20 mA - 0 - 10 V - 0 - 5 V - 2 - 10 V - 1 - 5 V
		Lower Range	Minimum value of the analogue channel/connected sensor.
		Upper Range	Maximum value of the analogue channel/connected sensor.
Data Stream	Data Stream settings	Sample Period	The amount of time between data events in seconds.
		Mode	Can be selected between: - Off - Continuous - Threshold
		Threshold Channel	Can be chosen from Analog 1 to Analog 4. If Data Stream Mode is set to “Threshold” data events will only be sent if the value of the chosen Threshold channel lies between “Lower Threshold” and “Upper Threshold”.
		Lower Threshold	The value the chosen threshold channel should be over for data events to be sent.
		Upper Threshold	The value the chosen threshold channel should be under for data events to be sent. **Note:** If data should be sent as long as the threshold channel value is above the lower threshold, the value of this setting should be, at least, the upper range of the chosen channel.

Table 12: Description of the factory settings.

6.2 Overview of the factory settings

The following factory settings are stored in the CSI-Connect on delivery.

Tab		Name	Value
Sensors	Channel 1 to 4	Sensor	“Off/Manual”
		Name	“Off/Manual”
		Unit	“Off”
		Type	“Off”
		Lower Range	0
		Upper Range	100
Data Stream	Data Stream Settings	Sample Period	10
		Mode	Off
		Threshold Channel	Off
		Lower Threshold	0
		Upper Threshold	100

Table 13: Factory settings for the CSI-Connect.

7 Operation

For operation, switch on the voltage supply to the CSI-Connect or plug a power supply unit into a suitable socket.

During operation, note the cloud and status LEDs on the CSI-Connect.

For descriptions of the different colours of the two LEDs please refer to Table 14 and Table 15 in section 9

8 Maintenance

ConditionSensor Interface CSI-Connect is maintenance-free.

9 Troubleshooting/fault rectification

The CSI-Connect is equipped with two indicator RGB-LEDs used for signalling device status and errors.

One LED is labelled Cloud, this LED indicates the device cloud status according to the following:

Color	Pattern	Description	Rectification
White	Breathing	This means the CSI-Connect is on but not connected to the cloud.	This is a step in the start-up process and should pass on its own. If, however it does not try restarting the CSI-Connect by disconnecting and reconnecting the power cable.
Magenta	Blinking	Firmware being updated.	**Do not power off the CSI-Connect!**
	Breathing	Safe mode. Connected to cloud but not running firmware correct.	Restart the CSI-Connect by disconnecting and reconnecting the power cable.
Green	Blinking	Looking for cellular signal.	Normal step in the start-up process, it might take a couple of minutes, but if the CSI-connect stays like this for too long consider checking that the antenna is mounted correct and try repositioning the device as the placement may mean it cannot get a signal.
Cyan	Blinking	Connecting to the cloud servers.	Normal step in the start-up process and will pass automatically.
	Breathing	Connected to cellular network and cloud servers.	-

Table 14: Description of Cloud LED states.

The other LED is labelled Status and indicates a state that might occur during operation. All states are represented by a solid colour as follows:

Colour	Description	Rectification
Cyan	No error	-
Green	Setup phase the CSI does not respond during this time.	Wait for the LED to change colour.
Yellow	Analog error. There was an error initializing the analogue module.	Restart the CSI-Connect.
Red	Indicates some other error.	Restart the CSI-Connect.

Table 15: Description of status LED states.

10 Removing / Disposal

Dismount the product completely, including all its components, before decommissioning. Disconnect or remove the electrical connection.

Dispose of the packaging material in an environmentally friendly manner.

After dismantling the product and separating its various materials into categories, dispose of all parts in an environmentally friendly manner.

11 Appendix

11.1 Accessories

For optimum system integration of HYDAC Condition Sensor Interface CSI-Connect, the following original accessories are available:

11.1.1 Connection Cables

The following connection cables for the sensors are available:

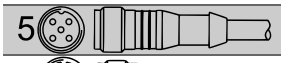
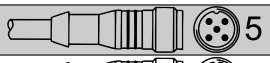
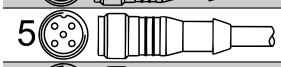
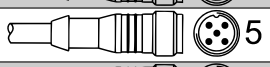
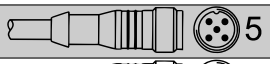
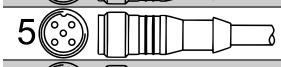
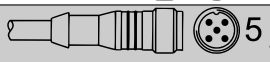
Connector, female	↔	Connector, Male	Length		Part No.
	↔		0.5 m	ZBE 30-005	4193586
	↔		2 m	ZBE 30-02	6040851
	↔		3 m	ZBE 30-03	6053924
	↔		5 m	ZBE 30-05	6040852
	↔	 + shielding	10 m	ZBE 30S-10	3729098

Table 16: Connection cable Connector, female ↔ Connector, male.

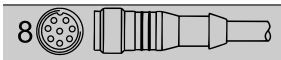
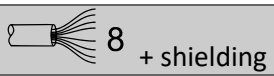
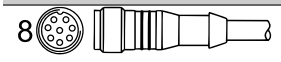
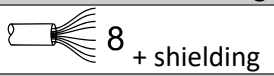
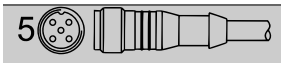
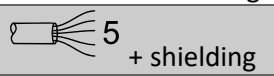
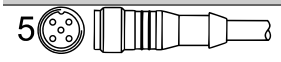
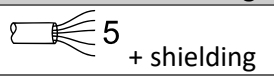
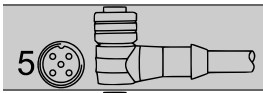
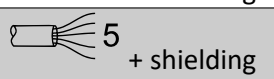
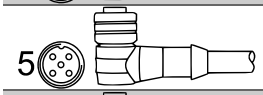
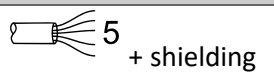
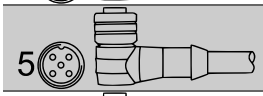
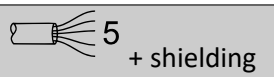
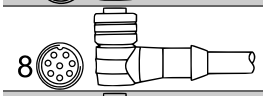
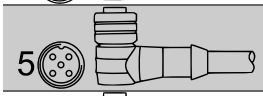
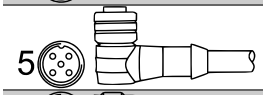
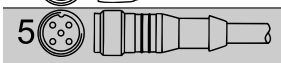
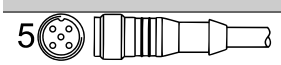
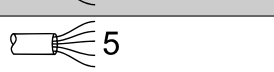
Connector, Female	↔	Cable with open end	Length		Part No.
	↔	 + shielding	5 m	ZBE 42S-05	3281239
	↔	 + shielding	10 m	ZBE 42S-10	3449681
	↔	 + shielding	5 m	ZBE 47S-05	3527626
	↔	 + shielding	10 m	ZBE 47S-10	3527627
	↔	 + shielding	2 m	ZBE 08S-02	6019455
	↔	 + shielding	5 m	ZBE 08S-05	6019456
	↔	 + shielding	10 m	ZBE 08S-10	6023102
	↔		2 m	ZBE 0P-02	6052697
	↔		2 m	ZBE 08-02	6006792
	↔		5 m	ZBE 08-05	6006791
	↔		5 m	ZBE 47-05	3484562
	↔		10 m	ZBE 47-10	3484564

Table 17: Connection cable Connector, female ↔ Cable with open end.

Cable coding

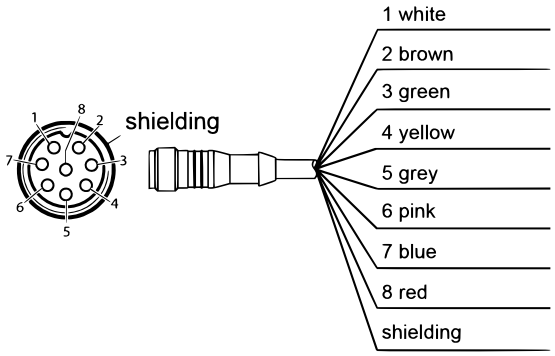


Figure 4: ZBE 42S

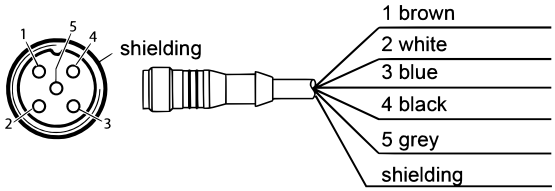


Figure 5: ZBE 08S & ZBE 47S

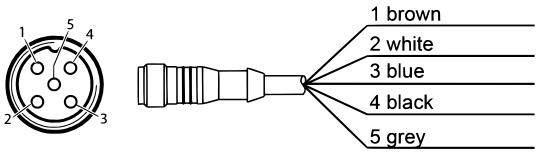


Figure 6: ZBE 08 & ZBE 47

11.1.2 Connectors

The following Connectors are available:

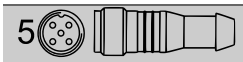
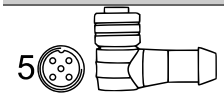
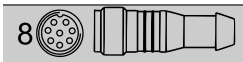
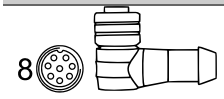
			Part No.
5 	Female connector with screw terminal, 5-pole, M12x1, to DIN VDE 0627	-	6049128
5 	Female connector with screw terminal, with shielding, 5-pole, M12x1, to DIN VDE 0627	ZBE 08	6006786
8 	Female connector with screw terminal, 8-pole, M12x1, to DIN VDE 0627	ZBE 44	3281243
8 	Female connector with screw terminal, 8-pole, M12x1, to DIN VDE 0627	ZBE 0P	6055444

Table 18: Connectors female.

Glossary

Index

1 General ... 2
1.1 Imprint ... 2
1.2 Documentation Representative ... 2
1.3 Purpose of this manual ... 2
1.4 Target group of the manual ... 3
1.5 Target group – Required qualifications/training ... 3
1.6 Illustrations in the manual ... 3
1.7 Representation/explanation of pictograms ... 6
1.8 Exclusion of liability/warranty ... 7
1.9 Notes on copyright ... 7
1.10 Validity of this manual ... 7
2 General safety information ... 8
3 Product overview ... 9
3.1 Scope of delivery ... 9
3.2 Dimensions ... 9
3.3 Proper/Designated Use ... 10
3.4 Improper Use or Use Deviating from Intended Use ... 10
3.5 Technical Data ... 11
3.6 Decoding the model code label ... 12
3.7 Model code ... 12
4 Storage and transport ... 13
5 Assembly, installation, and commissioning ... 13
5.1 Assembling the CSI-Connect ... 13
5.2 Connection overview ... 13
5.3 Commissioning ... 15
6 Factory settings ... 17
6.1 Description of the factory settings ... 17
6.2 Overview of the factory settings ... 18
7 Operation ... 18
8 Maintenance ... 18
9 Troubleshooting/fault rectification ... 19
10 Removing / Disposal ... 20
11 Appendix ... 21
11.1 Accessories ... 21
Glossary ... 22
Index ... 23