



CH8SH

Technical Data Sheet



CH8SH CAN Hub Module



CH8S Diagnostic features:

- 8 CAN ports
- “Power and CAN OK” LED for each port
- Protective features on CAN ports
- 3 CAN diagnostics LEDs

The CH8SH is designed to be heart of machines CAN bus. It allows creation of star topology bus, which in turn improves reliability and fault tolerance.

The M12 CAN connectors are designed to supply not only the bus but also supply voltage to the electronics of controller connected to it. The built-in protection monitors voltage in CAN lines and in fault case it switches off CAN to keep the rest of the CAN communication intact. Also outgoing current is monitored and in overload case it is switched off.

The 3 additional LEDs in mid-section of the unit allow easy and fast basic diagnostics of the bus.

The unit has built in CAN termination resistor that can be activated via connecting pin 5 to ground at power supply connector X9.

Technical Information

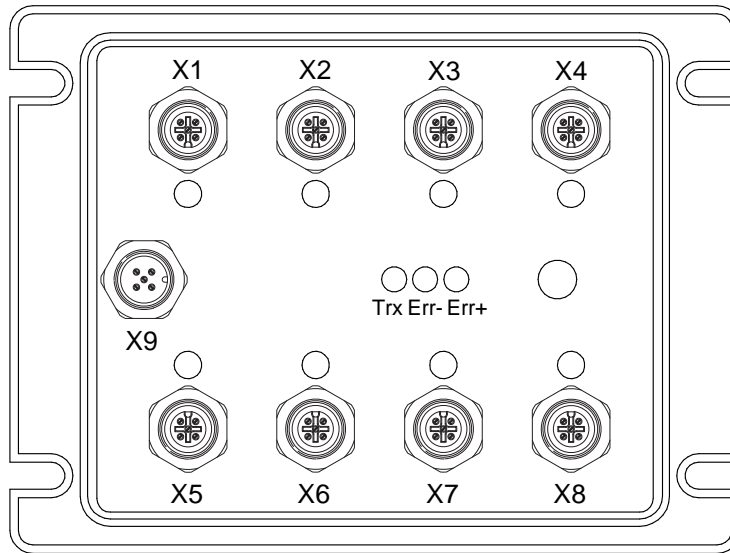
- 9-32V Operating voltage range
Current consumption < 100mA (without external load)
(Protected against reverse polarity)
- -40...+85°C operating temperature range
- IP67 aluminium housing
- Weight 0.65kg
- Main dimensions 160mm x 120mm x 37,6mm
- 8x CAN connectors (for creating star topology bus)
- Max 1.5A for each CAN connector for supplying electronics
with built-in short circuit protection
- Indicator LEDs:
8 pcs for "Power and CAN good"
3 pcs CAN diagnostics

The diagnostics and protective features

There are 3 LEDs for CAN diagnostics. They are meant to be used for pinpointing the source of CAN related problem to one bus branch by removing one branch at the time from the CH8SH. See "LEDs" table on the next page.

On each port the delivered supply current is measured. If overcurrent is drawn then the supply and related LED is switched off. Also both CAN_H and CAN_L voltage is measured on each port. If either of them has too low or too high voltage then the CAN port is switched off together with the related LED.

LED Indicators and connectors



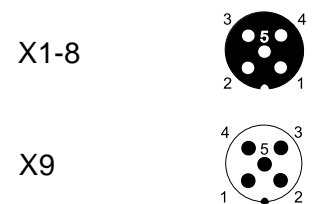
LEDs

LED	Description	Details
X1-X8	Power and CAN good	LED indicates that the supply voltage to peripheral is available and the CAN signal voltage in normal range.
Trx	CAN Traffic	Flashing light: Normal operation No or constant light: CAN failure
Err-	Negative CAN potential	Light indicates negative CAN potential (CAN L is over 10V)
Err+	CAN over voltage	Light indicates CAN over voltage (5-15V on CAN H)

M12 Connectors

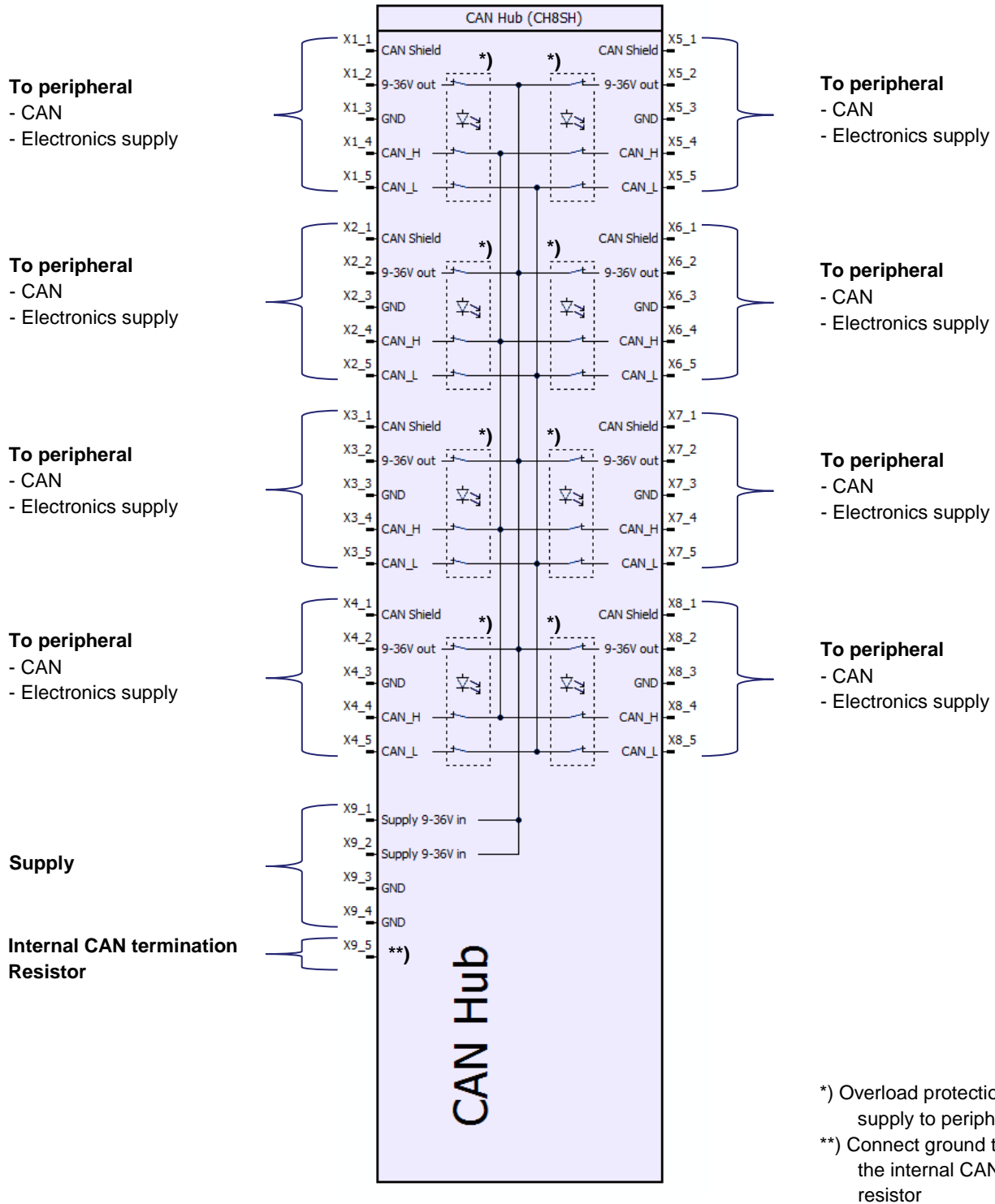
	M12 Connector needed:
X1-8: CAN	5 pin, Male A-coded
X9 : Power supply & CAN termination	5 pin, Female A-coded
Protective cap for Male M12 ^{*)}	Erni 374342
Protective cap for Female M12 ^{*)}	Erni 374343

^{*)} Protective caps must be used on unused connectors to reach waterproofness



As seen from cable entry side

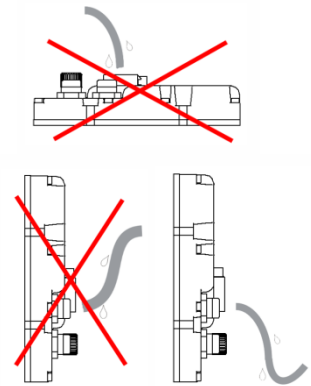
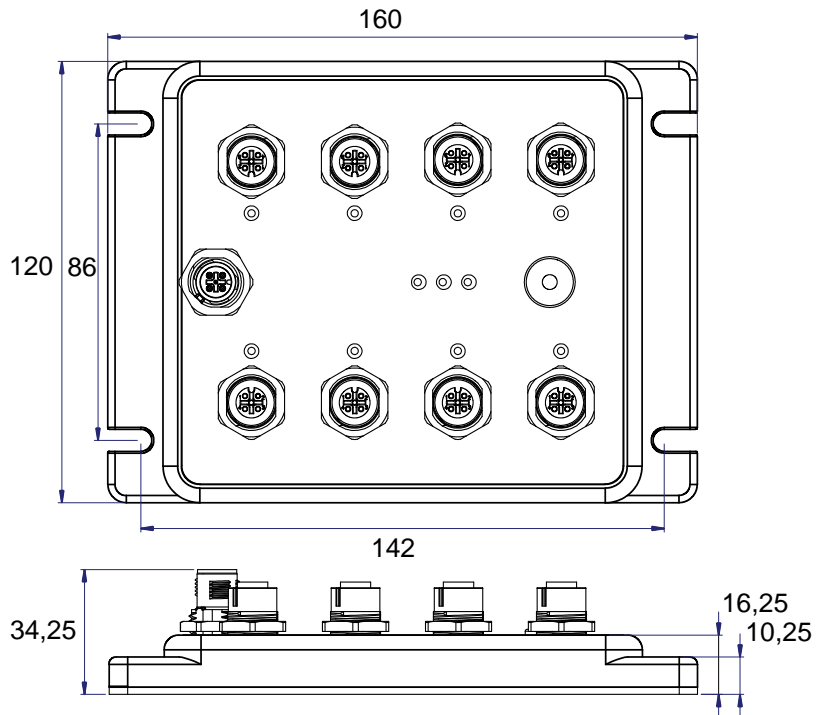
Wiring Diagram:



Mounting and Housing Dimensions

CH8SH is fixed to mounting panel or flat surface with four M5 screws.

The preferred mounting position is connectors pointing downwards. If the unit is mounted connectors pointing to side then it is vital to leave some loose cable in a downward cue to prevent moisture



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