4.3 Electrical connection

Nominal voltage	12 VDC or 24 VDC
Operating voltage range	8 VDC to 32.5 VDC
Power consumption during operation	< 200 mA at nominal voltage
Power consumption in standby mode	< 3 mA

4.4 Pin description

4.4.1 8-pin connector

Each ***SingleViu*** dial gauge has a connection for a MOLEX 334724801 8-pin ►connector.

Pin	Designation	Comment	Cable colour ►Power supply cable
1	Terminal 30	Battery positive (12/24 VDC)	Red
2	Terminal 31	Battery negative (earth)	Black
3	Sensor earth	Reference potential for encoder signal	Blue
4	Terminal 15	Ignition	Brown
5	Sensor input	Connection for analogue encoder signal	Green
6	Terminal 58	Illumination	Blue/red
7	CAN High	Input for CAN bus	White
8	CAN low	Input for CAN bus	Pink

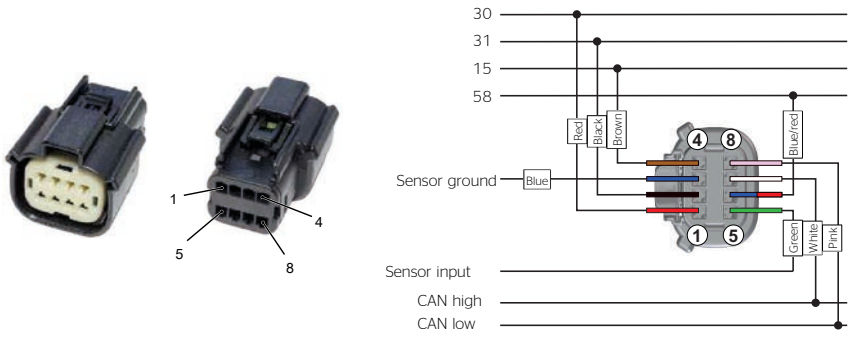

Fig. 1: Molex 8-pin connector with connection diagram

NOTE

Examples of sensor connections can be found in Annex C (Connection diagrams).

Pin 1: Power supply (terminal 30)

VDC = +8 VDC to +32.5 VDC

This pin supplies the dial gauge with DC voltage. Power consumption is less than 200 mA in operation and less than 3 mA in standby. The restart is delayed by 0.5 volts after overvoltage or undervoltage.

Pin 2: Earth (terminal 31)

Power supply earth contact.

Pin 3: Sensor earth

Earth reference for the analogue sensor signal, see pin 5.

Pin 4: Ignition (terminal 15)

Voltage range: 0 V to UBat. Activation threshold 8 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms. Wake-up via CAN is possible.

Pin 5: Sensor input

The type of sensor input depends on the dial gauge variant.

a) Resistance input

Range: 0 to 500 ohms

The preset ►Sensor characteristic curve depends on the dial gauge variant. The “SingleViu 8Pin 250 Ohm” 2801000020301 adapter cable is available as an ►Accessory for sensor characteristics >500 ohms; it connects a 250 ohm resistor between signal lines 3 and 5 and accordingly in parallel with the sensor. The resulting characteristic curve can be entered using the ►ConfigTool.

b) Power input

Range: 0 to 6 V or -100 to +100 mV

The signal for pyrometers must be connected to the supply voltage (terminal 30); see Annex C (Connection diagrams).

Voltmeters do not require a separate signal input, but use the supply voltage as a signal in analogue mode.

c) Pulses and frequencies

Thresholds: Ulow < 0.2 V, Uhigh frequency-dependent from 1 V. Frequencies up to 400 kHz are possible.

SingleViu is approved for all standard sensors and signal types.

- Inductive sensor
- Magnetic pick-up
- Hall effect sensors
- Alternator
- Ignition
- Generator encoder

d) Power input

SingleViu dial gauges with voltage input can receive the standard signal 4 -20 mA via the " SingleViu 8Pin 250 Ohm" adapter cable 2801000020301 available as an ►Accessory. This adapter cable connects a 250 ohm resistor between the signal lines 3 and 5 and thus converts the current signal into a voltage signal 1 - 5 V. Using the ►ConfigTool, the SingleViu dial gauge can be configured to match this characteristic curve.

Pin 6: Illumination (terminal 58)

Voltage range: 0 V to UBat. For functionality, see chapter Illumination [▸ 17].

Pin 7: CAN High

Connection pin for "CAN high" according to ISO 11898-2 (High-speed CAN) without terminating resistor.

Pin 8: CAN low

Connection pin for "CAN low" according to ISO 11898-2 (High-speed CAN) without terminating resistor.

4.4.2 12-pin connector

SingleViu dial gauges with a diameter of 80 and 100 mm also have a connection for the MOLEX 334721201 ►connector with 12 pins. All connections contained therein are optional.

Pin	Designation	Comment	Cable colour ►Power supply cable
1	CAN High	Opt. input for CAN bus	White
2	CAN low	Opt. input for CAN bus	Pink
3	Terminating resistor	120 ohm CAN terminating resistor	Red
4	Terminating resistor	120 ohm CAN terminating resistor	
5	Digital input 1	Control of indicator light 1	Yellow/white
6	Digital input 2	Control of indicator light 3	Yellow/blue
7	Digital input 3	Control of indicator light 2	Yellow/red
8	Digital input 4	Control of indicator light 4	Yellow/green
9	Digital input 5	Control of indicator light 5	Yellow/black
10	Digital input 6	Connection for external push button	Grey/pink
11	Digital output 1	Connection for external buzzer	Grey
12	Digital output 7	Configuration pin	Orange

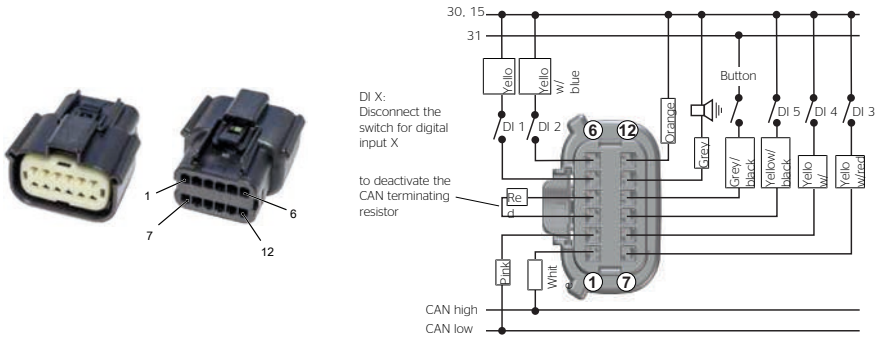

Fig. 2: Molex 12-pin connector with connection diagram

Pin 1: CAN High

Alternative "CAN high" according to ISO 11898 without terminating resistor. This pin can also be used to feed through CAN signals.

Pin 2: CAN low

Alternative connection pin for "CAN low" according to ISO 11898 without terminating resistor. This pin can also be used to feed through CAN signals.

Pin 3 and 4: Terminating resistor

Connection to the 120 ohm CAN terminating resistor according to ISO 11898. The resistor is fitted inside the dial gauge and is activated by connecting pins 3 and 4 outside the gauge.

Pin 5: Digital input 1

Voltage range: 0 V to►UBat. Activation threshold 4 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms.

Switch pin for indicator light 1, the error light. By default, the light is active at high voltage levels.

Pin 6: Digital input 2

Voltage range: 0 V to►UBat. Activation threshold 4 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms.

Switching pin for indicator light 3, the yellow engine warning light. By default, the light is active at high voltage levels.

Pin 7: Digital input 3

Voltage range: 0 V to►UBat. Activation threshold 4 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms.

Switching pin for indicator light 2, the red stop light. By default, the light is active at high voltage levels.

Pin 8: Digital input 4

Voltage range: 0 V to►UBat. Activation threshold 4 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms.

Switching pin for ►indicator light 4. By default, the light is active at high voltage levels.

Pin 9: Digital input 5

Voltage range: 0 V to►UBat. Activation threshold 4 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms.

Switching pin for indicator light 5. By default, the light is active at high voltage levels.

Pin 10: Digital input 6

Connector pin for an optional, external switch. The pin detects a low voltage level, so the external switch must be connected between this pin and the earth contact.

Pin 11: Switch output 1

Connector pin for an optional, external consumer, e.g. a buzzer or a control display unit. It is an open-collector outlet that switches to earth. The external consumer must be connected between battery positive and this pin.

Maximum current: 1000 mA

Pin 12: Digital input 7

Voltage range: 0 V to►UBat. Activation threshold 4 VDC, deactivation threshold 2.5 VDC, debounce time 200 ms.

This configuration connector can be used to enter the advanced ►Configuration menu.