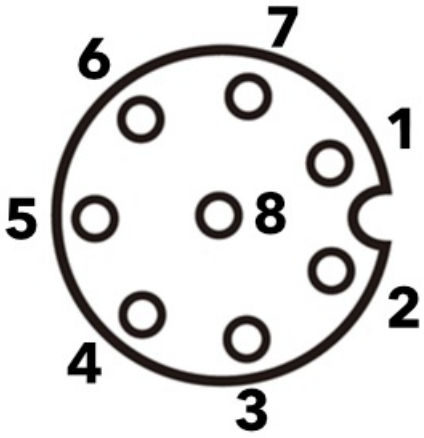
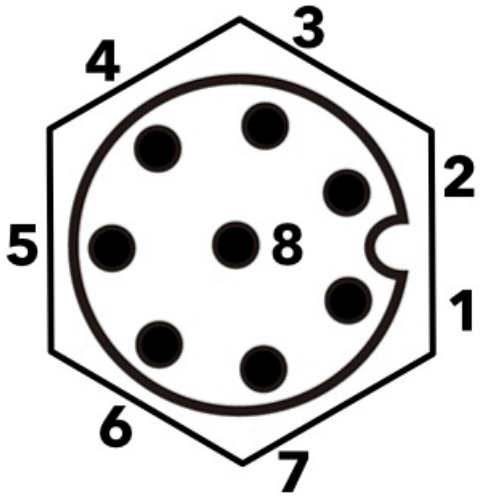
M8 Accessories[(004)]

M8 Pinouts



M8 Connector on cable

Facing sockets on connector end of cable



M8 Connector on Tracker One

Facing pins on the panel connector from the outside of the case

The 8-pin connector has these signals:

M8 Pin	Function	Function	Function	I/O	Color
1	CAN_P			IO[2]	Yellow
2	VIN[3]			I	Red
3	Analog A3		GPIO D3	IO[1]	White
4	Serial1 RX	Wire3 SDA	GPIO D8	IO[1]	Green
5	Serial1 TX	Wire3 SCL	GPIO D9	IO[1]	Brown
6	CAN_5V[4]		CAN_PWR	O	Orange
7	CAN_N			IO[2]	Blue
8	GND				Black

[1]MCU GPIO is limited to 3.3V maximum.

[2]CAN Bus specifications can be found in the Tracker SoM datasheet.

[3]6.0 to 30 VDC at 2A when using the M8 connector.

[4]5V, 370 mA maximum. Controlled by the `CAN_PWR` GPIO.

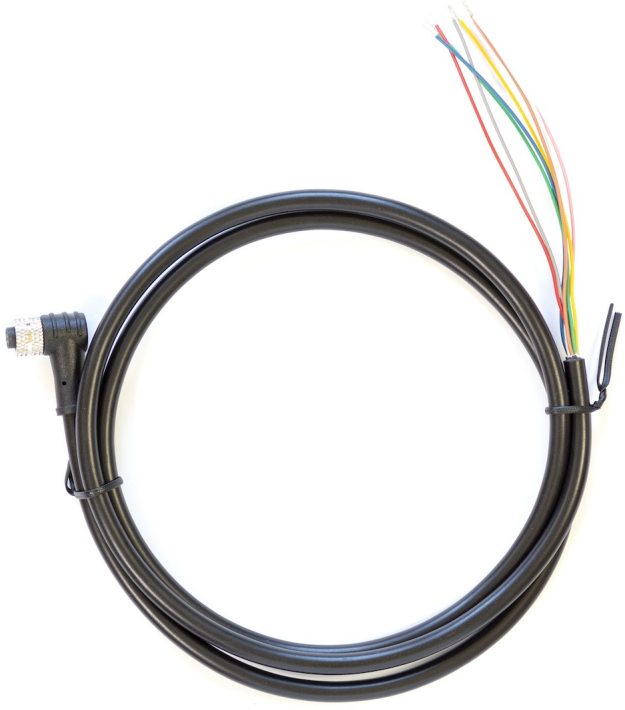
You typically connect the cable to your custom external interface device by routing the cable through a cable gland in your enclosure and to your custom board and:

- Terminate with pins in a PHR-8 to mate with a B8B-PH on your expansion board
- Terminate with screw terminals on your board
- Terminate by soldering the wires to your board

For more information on expanding your Tracker One using the M8 connector, see the Tracker One Expansion Tutorials.

You must enable CAN_5V in order to use GPIO on M8 pins 3, 4, and 5 (A3, D8/RX/SDA, D9/TX/SCL) on the Tracker One. If CAN_5V is not powered, these pins are isolated from the MCU starting with version 1.1 of the Tracker One/Tracker Carrier Board (September 2020 and later). This is necessary to prevent an issue with shipping mode, see technical advisory note TAN002.

M8 Cables

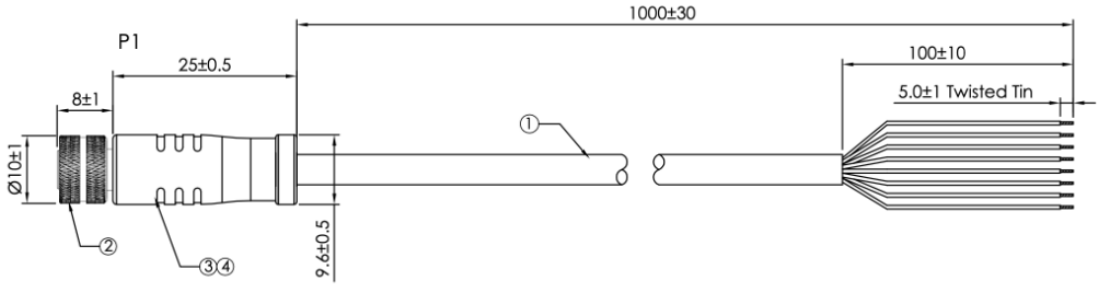


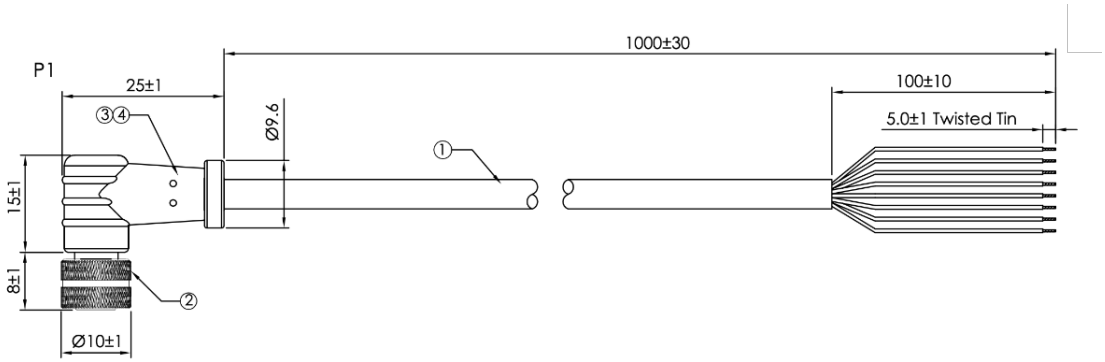
The M8 cables provide a convenient way to connect external devices to the Tracker One while preserving the IP67 waterproof rating and not having to disassemble the Tracker One.

WIRE GAUGE - M8 CABLES

M8 Pin	Function	Color	Wire Gauge
1	CAN_P	Yellow	26 AWG
2	VIN	Red	24 AWG
3	A3	White	26 AWG
4	TX_SDA_D8	Green	26 AWG
5	TX_SCL_D9	Brown	26 AWG
6	CAN_5V	Orange	26 AWG
7	CAN_N	Blue	26 AWG
8	GND	Black	24 AWG

DIMENSIONS - M8 CABLES





Parameter	Value
Length	1 meter ±3 cm
Outer jacket stripped	10 cm ±1 cm
Inner wires stripped and tinned	5 mm ±1 mm
Outer Diameter	5.0 mm
Approvals	UL2464, RoHS

ORIENTATION - M8 CABLES

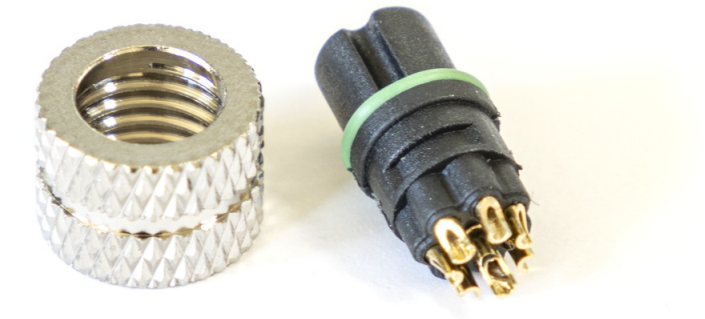
The key on the M8 panel connector is at 3 o'clock (right side, nearest to the USB connector), when facing the connectors, as in the diagram above. When using the right-angle M8 cable, the cable will face away from the USB connector.

SKUS - M8 CABLES

SKU	Description
ONEM8CABEA	Tracker One M8 Accessory Cable (Straight), (x1)
ONEM8CABTY	Tracker One M8 Accessory Cable (Straight), (x40)
ONEM8CABRAEA	Tracker One M8 Accessory Cable (Right Angle), (x1)
ONEM8CABRATY	Tracker One M8 Accessory Cable (Right Angle), (x40)

M8 Connector

The ONEM8CONN is a connector similar to the M8 connector on the straight ONEM8CAB. It's intended for building your own M8 cable assembly and is the female side of the connector that mates with the Tracker One M8 connector. It is a bare connector and does not include a shroud. It is intended that your cable manufacturer will add an overmould to seal your cable to the connector.



SKUS - M8 CONNECTOR

SKU	Description
ONEM8CONNEA	Tracker One M8 Connector (Straight), (x1)
ONEM8CONNTY	Tracker One M8 Connector (Straight), (x40)

This connector has the same pinouts as the cable above, but without the cable, so you can substitute your own cable of the desired length.

Other Sensors

M8 TEMPERATURE/HUMIDITY

- M8 Temperature/Humidity Datasheet
- M8 Temperature/Humidity Tutorial

Revision history

Revision	Date	Author	Comments
001	2020 Sep 15	RK	First release
002	2021 Feb 03	RK	Change M8 CAN output current to 370 mA
003	2021 Feb 10	RK	Update picture of ONEM8CONN
004	2021 Feb 17	RK	Add note about Tracker One M8 GPIO requiring CAN_5V