

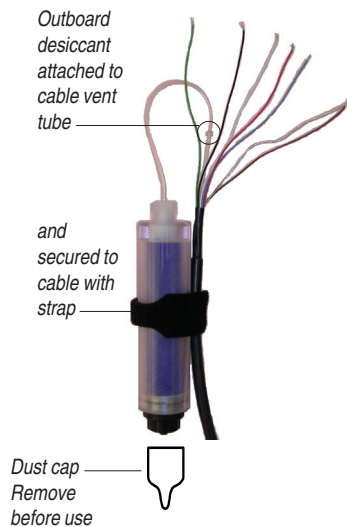
# RUGGEDCABLE™ STRIPPED & TINNED

**for Level TROLL®**
**RuggedCable (TPU)**

Signal	Color
Gnd/Return	BLACK
Ext Power	RED
4-20 mA	BROWN
RS485(-)	GREEN
RS485(+)	BLUE
SDI-12	WHITE

**FEP Cable**

Signal	Color
Gnd/Return	BLACK
Ext Power	RED
4-20 mA	BROWN
RS485(-)	GREEN
RS485(+)	ORANGE
SDI-12	YELLOW



**TIP:** The desiccant may be removed from the vent tube, if needed, for better access to the conductor wires.

Pull the vent tube extender off the cable vent tube to remove. After connecting and trimming wires, attach desiccant vent tube to cable vent tube and secure desiccant to cable with hook-and-loop strap, as shown in the photo above.

Connects a Level TROLL directly to a controller or logger for communication via:

- Analog (4-20 mA)
- RS485 Modbus
- SDI-12
- RS232 Modbus (with a customer-supplied converter)

Twist-Lock connector mates with probe body. Stripped & tinned wires on opposite end for wiring to PLC or logger. Vented cable includes removable outboard desiccant to protect cable vent tube from condensation in high-humidity environments.

**CABLE SPECIFICATIONS**

Jacket options	TPU (Thermoplastic Polyurethane) Halogen-Free TPU (LSZH-rated, low smoke zero halide) FEP (fluorinated ethylene propylene, generic equivalent of DuPont Teflon®)
Vent options	Vented (includes outboard desiccant), non-vented
Conductors	6 conductors, 24 AWG, polypropylene insulation
Diameter	Cable, 6.7 mm (0.265 in); Connector, 18.5 mm (0.73 in)
Minimum bend radius	2X cable diameter (13.5 mm, 0.54 in)
Break strength	127 kg (280 lb)
Max. recommended cable lengths	SDI-12 61 m (200 ft) Modbus 1259 m (4000 ft) 4-20 mA 1259 m (4000 ft)
Desiccant pack	Clear acrylic, nylon, HDPE membrane
Desiccant	approx. 22 g silica gel, type 4

**CONNECTIONS**

Refer to wiring diagrams on back of sheet. Trim back and insulate unused wires. The shield should be wired to a chassis ground or earth ground.

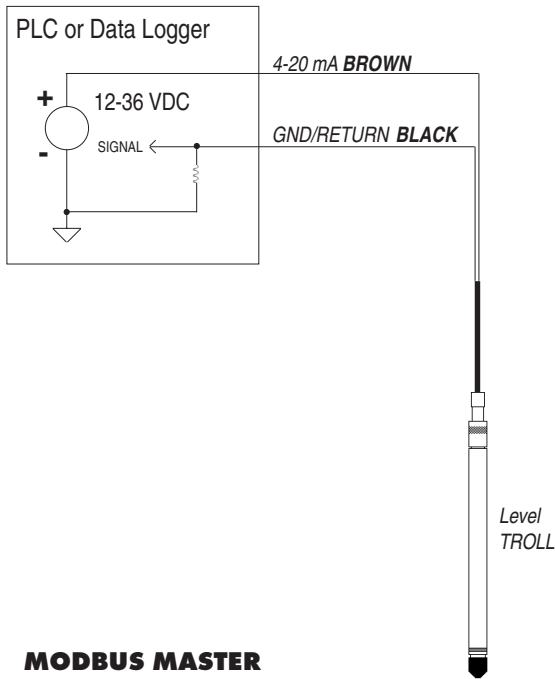
**Power Connections.** The Red wire provides power for Modbus and SDI-12 modes. The Brown wire provides power for the 4-20 mA mode. If power is present on the Brown wire and not on the Red wire, the device enters the 4-20 mA mode automatically and stays in the 4-20 mode until power is removed from the Brown wire or is applied to the Red wire. The Red wire has priority — if power is applied to both wires at the same time, the device will operate in Modbus or SDI-12 modes but not in 4-20.

**Communications.** The device automatically switches between Modbus and SDI-12 modes depending on which of the two interfaces has activity. Modbus and SDI-12 cannot be used at the same time — whichever one is currently in use will block communication on the other.

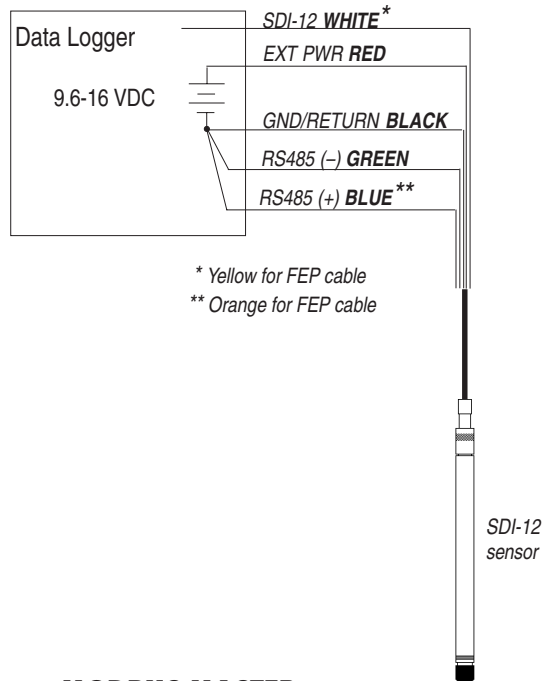
To communicate with the Level TROLL using Win-Situ® 5 software through a serial COM port: Cable can be wired to a port-powered RS485-RS232 converter\* for temporary connection to a serial port on a PC.

\*Such as B&B Electronics Model 485SD9TB. See wiring on back of sheet

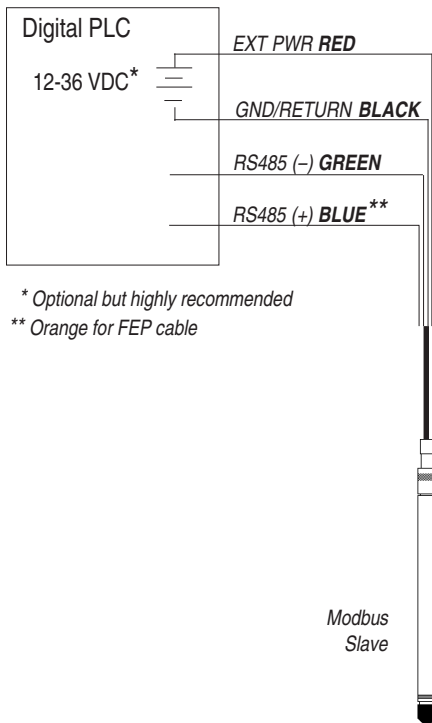
**ANALOG (4-20 mA) 2 WIRE**



**SDI-12 3 WIRE**

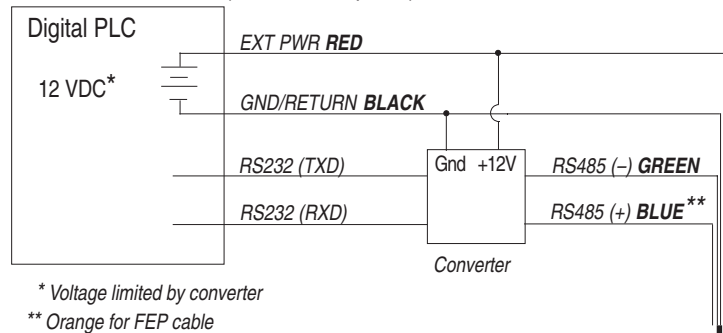


**MODBUS MASTER**  
with RS485 built in

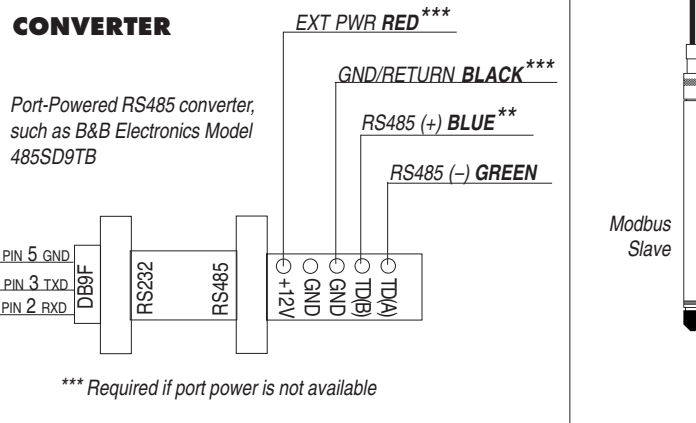


**MODBUS MASTER**

with RS232 built in (converter required)



**CONVERTER**



**1 800 446 7488**

(toll-free, US and Canada) or 970 498 1500 [www.in-situ.com](http://www.in-situ.com)

