T Series - TBOX Multichannel Loadcell Interfaces Data sheet

4 Load cell inputs with M12 5 pin

Load cell inputs (1 and 2) M12 5 pin

Waterproof potted housing

M12 8 Pin connector

rinLINK for in-field updates and configuration

Serial communications (RS232/RS485)
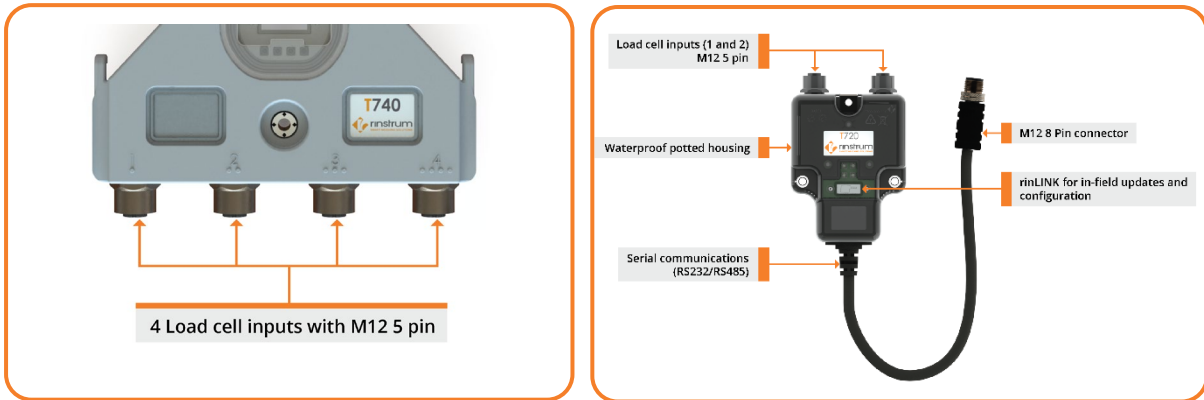
- Digital weigh transmission using serial communication.
- RS232 and RS485 serial options for communication.
- M12 waterproof loadcell connector for outdoor usage.
- Potted waterproof housing

The TBOX converts 2 or 4 analogue load cells signals to a multichannel digital signal back to a controller. Each load cell signal is available at the controller. The TBOX is commonly used on multi-head machines to save on cabling all analogue channels back individually. The digital signal uses a daisy chain cabling configuration further saving on cabling complexity.

The TBOX is fitted with M12 connectors to provide easy connectivity. The M12 connection for the loadcells is a standard 5 pin connector and the M12 digital tail uses an 8-pin standard. Rinstrum supplies 8 pin M12 T connectors for simple ring networking with RS485. RS232 version can be used for single point applications working back to a PC or PLC.

The TBOX is ideal for machine builders with multiheaded weighing elements and is available through a design consultation.


Smart Weighing

Configurability via a standard rinLINK allows the TBOX to be fully potted – perfect for harsh environments.

*… now that's smart weighing!*

How do you setup a TBOX?

- A Rinstrum rinLINK provides a magnetically coupled optical link on the unit, for a convenient temporary connection to a laptop
- The serial connection allows for download of software upgrades
- Running the free Viewer programme on the laptop gives easy access to the setup menu tree.
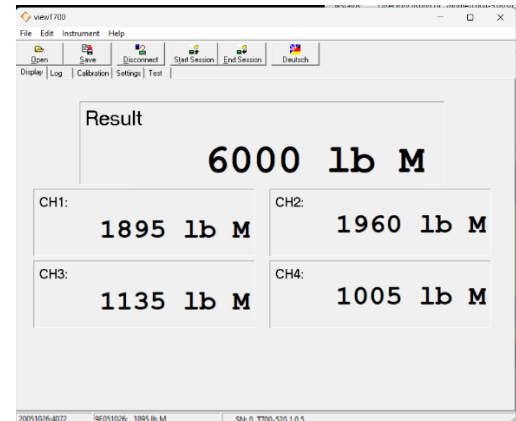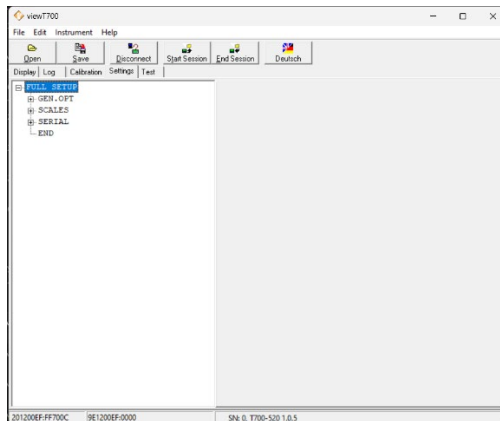
How do you cable multiple RS485 TBOX together?

- The serial connection on the TBOX uses 8 wires with an M12 connector.
- The RS485 digital connection can be connected in a ring configuration to reduce cabling using the T junction (MC8J1).
- Alternately a multi drop configuration can be used if preferred or if there are limitations with the PLC (MC8J2 junction is used to support the cabling).
- Rinstrum has a range of 8pin M12 connectors and cables.

Cabling: M12 8 Wire T Connectors Daisy Chain
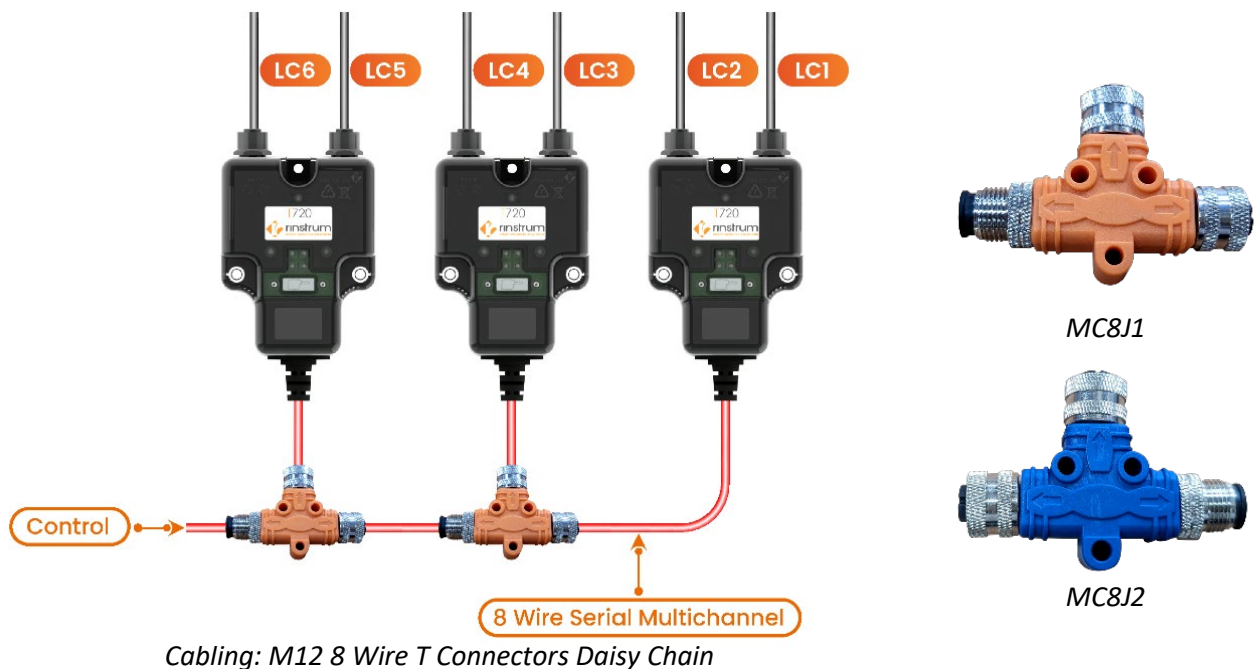
What types of controllers can I connect to?

- The Rinstrum R457 with custom Lua designed for you application
- Customer supplied equipment capable of operating as an RS232/ RS485 master
- Each channel of weighing data is accessed using a unique serial address
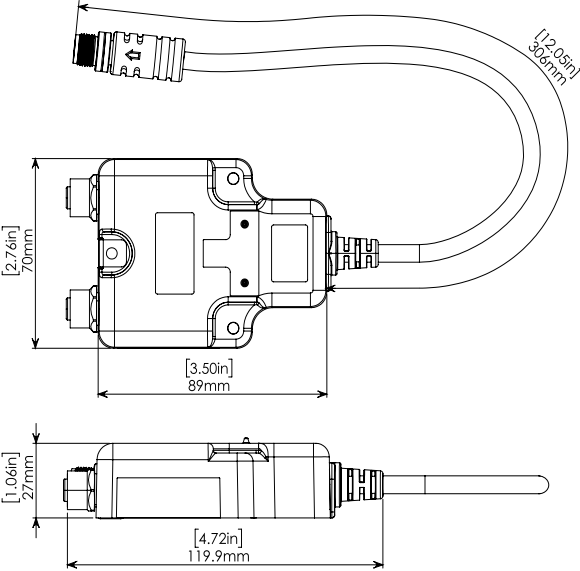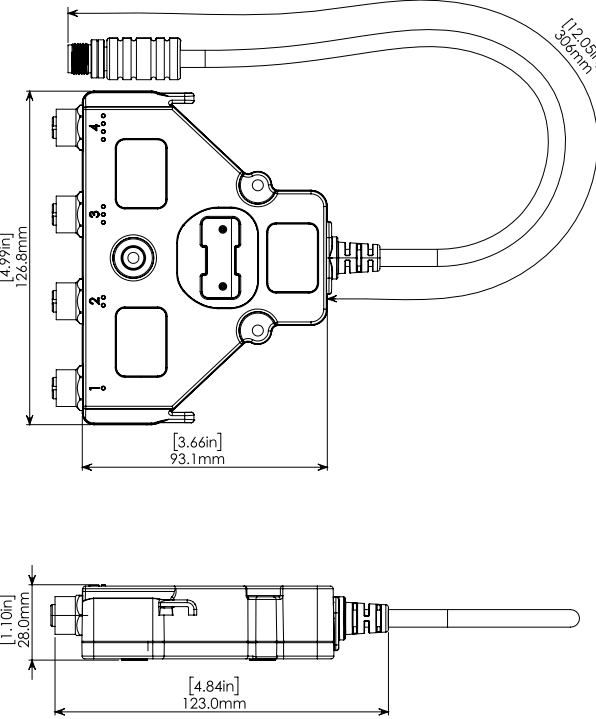
Specifications

	2 Channel TBOX - T720	4 Channel TBOX - T740
Resolution	min 0.25 μV/division	
No. of Channels	2	4
Zero Cancellation	±2.0 mV/V	
Span Adjustment	0.1mV/V to 3.0mV/V full scale	
Excitation	3.3V VDC for up to 4 x 350 ohm loadcells	
A/D Type	24 Bit Sigma Delta – 8,388,608 internal counts	
Digital Filter	FIR: 80 dB, IIR 0..8 stage	
Conv Rate	10-300 Hz	
Stability/Drift	Zero: < 0.1 μV/°C (+ 8ppm of deadload max) Span < 8 ppm/°C, Linearity < 20ppm, Noise < 0.2 μVp-p	
Power input	5 – 15 VDC in (Power-over-Ethernet M12 cabling)	
Interfaces	Loadcell - 5 pin M12 connector Serial Connection - 8 pin M12 connector for RS485 Serial Connection - 5 pin M12 connector for RS232	
Digital Communications	RS232, RS485 * #	
Setup	rinLINK	
Case Materials	Potted PMMA	
IP Rating	IP66, IP68	
Software	T700-515	T700-520

Specifications are subject to variation for improvement without notice - Illustrations are indications only and variation may be evident between products.

* Not all options are available on each variant

CAN options are possible

Dimensions

2 Channel TBOX - T720	4 Channel TBOX - T740
[12.05in] 306mm [2.76in] 70mm [3.50in] 89mm [1.06in] 27mm [4.72in] 119.9mm	[12.05in] 306mm [4.99in] 126.8mm [3.66in] 93.1mm [1.10in] 28.0mm [4.84in] 123.0mm