SMART WEIGHING SOLUTIONS

D730

Remote Display Installation Manual

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1. Specifications

Display	
Display	D730 – Six (6) LED digits with decimal points for displaying numeric, semi-alpha characters at 120 degrees viewing angle. • Character size (H x W) – 75mmx40mm (3"x1.6") • 28 LEDs per digit • 35mm (1.4") round RED and GREEN traffic lights
Performance	
Visibility	Greater than 20m (66 feet) at 120 degrees viewing angle
Update Rate	Dependant on data update rate
Operating Environment	Temperature: –10 to +50°C, -14 to 122°F case temperature Humidity:<90%RH non-condensing Storage: –20 to +60°C, -4 to 140°F ambient
Digital	
Setup	Automatic detection of protocol
Memory	Full non-volatile operation
Dimensions	
External Dimensions L x H x D	485mmx150mmx80mm (19.1"x5.9"x3.2")
Display Window L x H	380mmx80mm (15.0"x3.2")
Weight	3.5kg (7.7lb)
Power	
AC Power	110-240VAC 50/60Hz 23W MAX
Features	
Serial Inputs	RS-232 – two wire, receive only RS-485 – two wire, receive only
Baud Rate	Fixed 9600 baud, 8 Data Bits, No Parity and 1 Stop bit
Unit Addressing	Address fixed at 01
Display Timeout	5 seconds on data loss
Traffic lights	Controlled by supported protocols. Red and Green
Decimal Point	Displayed between digits as a single LED. The decimal point does not affect number of digits displayed.
Brightness Control	Auto Brightness 10 steps
Approvals	FCC, CE, C-tick

NTEP Multi Zero support	Multi zero support only applies to supported indicators and protocols. If the division size is 1x or higher, when the weight display returns to Zero the D730 will also display the trailing zero. Example: With the count set to 20, an indicator displays 00 at zero load. The D730 will also show 00 at zero as there is no leading zero blanking. NTEP is the National Type Evaluation Program in the US.
Optional Accessories	
	Weather Hood
	Pole mounting plate (RAM and VESA mounting compatible)

2. Installation

2.1. Introduction

The D730 is a 7 segment super bright LED remote with 75mm (3") high digits and traffic lights. The D730 remote display is capable of interpreting and displaying formatted weight transmissions from digital weight indicators. Additionally it can be used to display semi-alpha text. The D730 can display up to 6 semi-alpha/numeric digits in 7 segment format.

This unit is suitable for use in external applications and is designed to an IP65 rating. An optional weather hood is available to minimise effects of direct sunlight. The unit can be mounted on a flat surface with standard brackets or fixed to a pole using the optional mounting plate. The mounting plate also supports RAM and VESA mounting brackets.

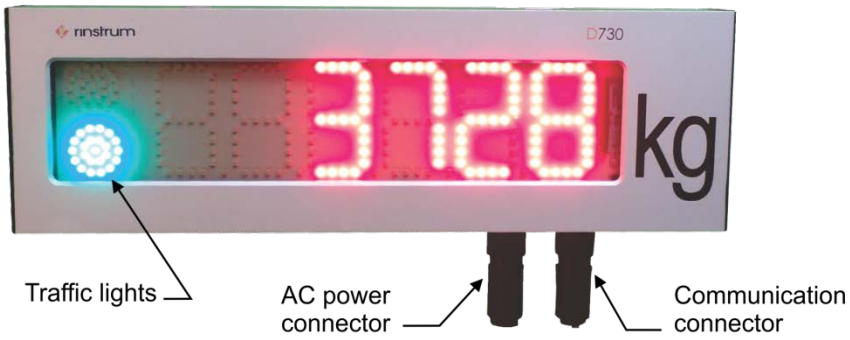


Figure 1 - D730 remote display

2.2. Important

The D730 remote display unit contains precision electronics and must not be subjected to shock, excessive vibration, or extremes of temperature, either before or after installation.

The serial and power inputs of the display are protected against electrical interference; however excessive levels of electro-magnetic interference may affect the operation of the instrument. The remote display unit should be installed away from any sources of electrical noise and the power and data cables should run separately from other sources of electrical interference.

The housing is rated to IP65 with a breather valve located on the underside of the extrusion to prevent condensation build up. This area should not be subject to high pressure water or other fluids else internal damage may occur.

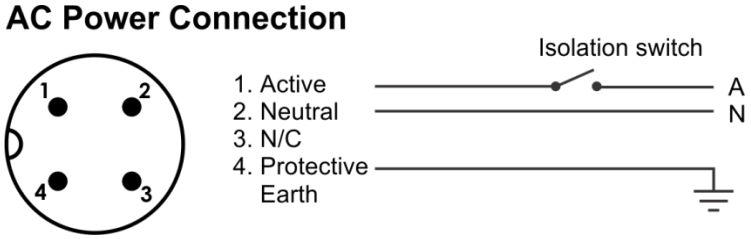
There are no user serviceable parts inside. **Warranty will be void if the housing is opened or either of the seals are broken**. All connections are made at the external sockets located on the bottom, right hand side. Ensure power cable is not connected to a live source before terminating the power connector. Make sure the environment is dry when terminating to prevent moisture ingress into sealed connectors.

Disconnect power before opening cable connector

2.3. Power Connection

Use an AC power source of 110-240VAC. The *Protective Earth* pin 4 MUST be connected to AC mains earth for both safety and EMC regulation compliance.

Note: The power connection should be performed in accordance with local regulations.



Use a power cable of min 0.75mm^2 (AWG 20) to max 2.5mm^2 (AWG 14)

Figure 2 - AC power supply socket connection

2.4. Communication connections

2.4.1. Earthing Requirements for Cable Shields

Cable shields should ideally be connected to earth at one end for the communications option below. As there is no provision for the shield connection at the communications connection end of the display, it is recommended the shield be terminated at the indicator (source) end.

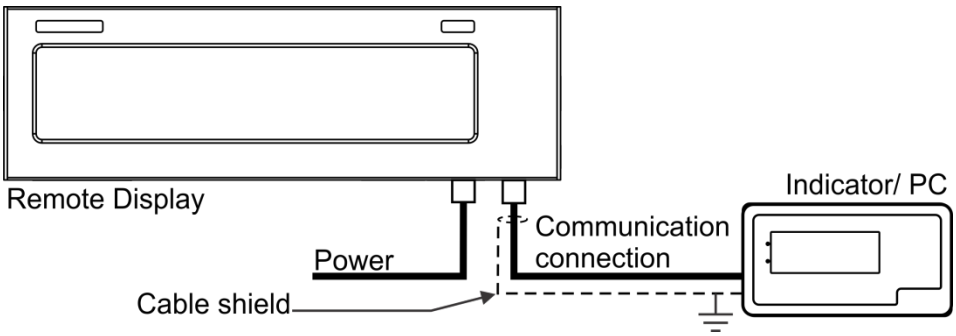


Figure 3 - Shield Earthing

2.4.2. Serial Connection

The serial connection is used to transmit data to the remote display. The serial connection settings are fixed (Baud rate - 9600, 8 data bits, no parity and 1 stop bit).

A shielded data cable should be used to prevent electrical noise interfering with the operation of the unit.

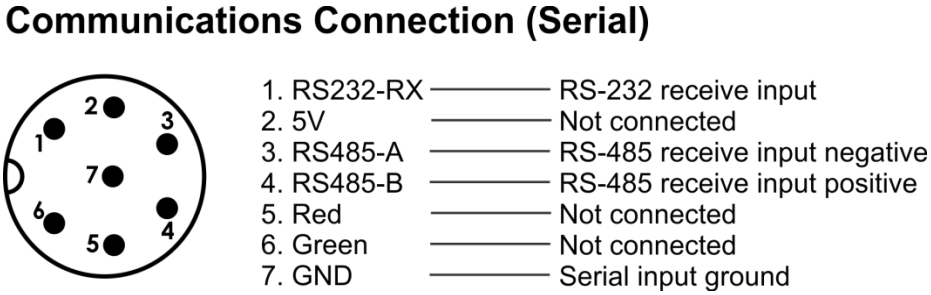


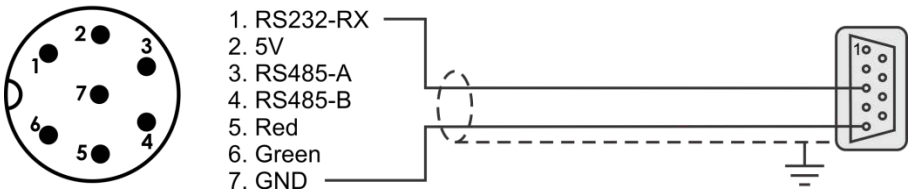
Figure 4 - Serial socket connections

Note - *GND* pin (7) is serial input ground, NOT shield or power ground.

♦ **RS-232 Receive Only**

RS232 is not recommended for long cable runs or electrically noisy environments.

Communications Connection (Serial)



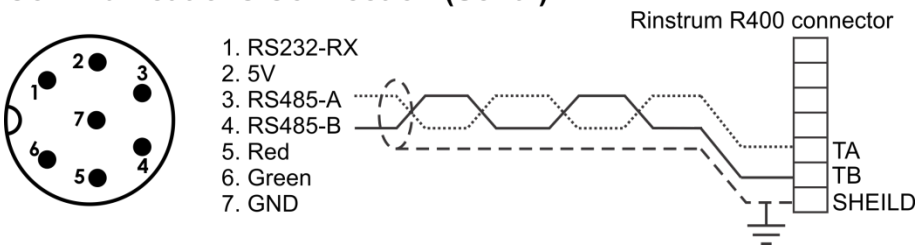
Recommended maximum cable distance for RS232 is 15m.

Figure 5 - RS232 Socket connection

♦ **RS-485 Receive Only**

RS485 is the preferred serial connection for long cable runs. Multi-dropping is supported. A 120Ω resister is provided for termination.

Communications Connection (Serial)



Recommended maximum cable distance for RS485 is 1,200m.

Figure 6 - RS485 Socket connection

2.5. Mounting Options

Two stainless steel mounting brackets are used to mount the unit on a flat surface. These brackets are bolted to rear of the housing using the shake-proof nuts provided. The outer mounting holes are 8mm in diameter.

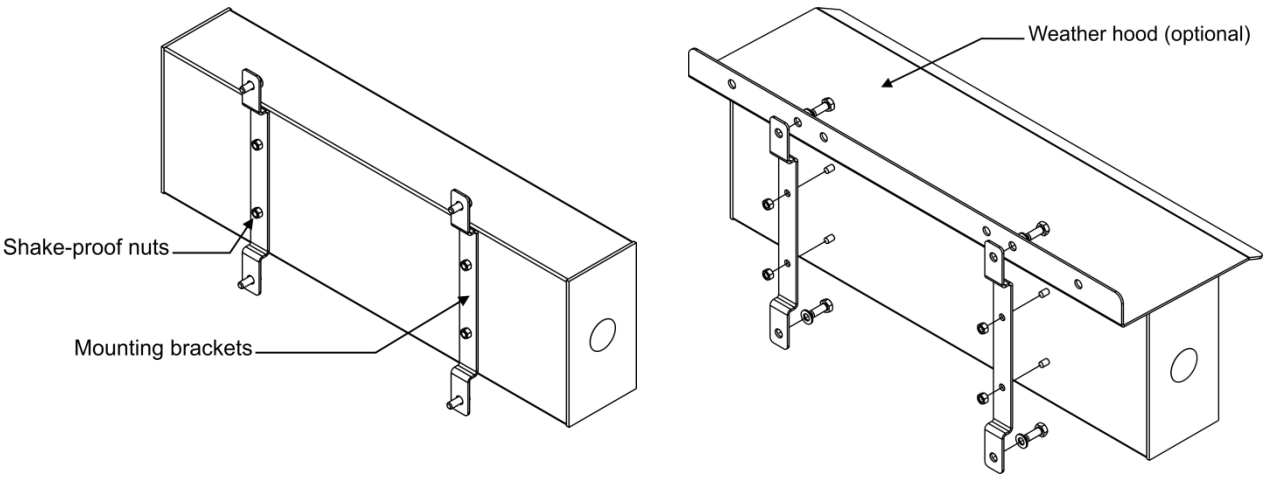


Figure 7 - Mounting brackets and optional weather hood

2.5.1. Wall Mounting

For wall mounting it is recommended that:

- 6mm or 1/4" bolts and washers be used as a minimum.
- Both Brackets are to be used with mounting hole centres at 250mm (9.8") wide and 200mm (7.9") high. Fit top bolts first to support display.

2.5.2. Weather Hood (Optional)

The optional weather hood can be used to minimise effects of direct sunlight. The Weather Hood mounting holes line up with the wall mounting holes on the brackets for easy fitment.

Note: It is recommended when fitting the optional weather hood the two bottom bolts are loosely installed first to support the remote.

2.5.3. Optional Mounting Plate

The optional mounting plate supports VESA, RAM and pole mounting.

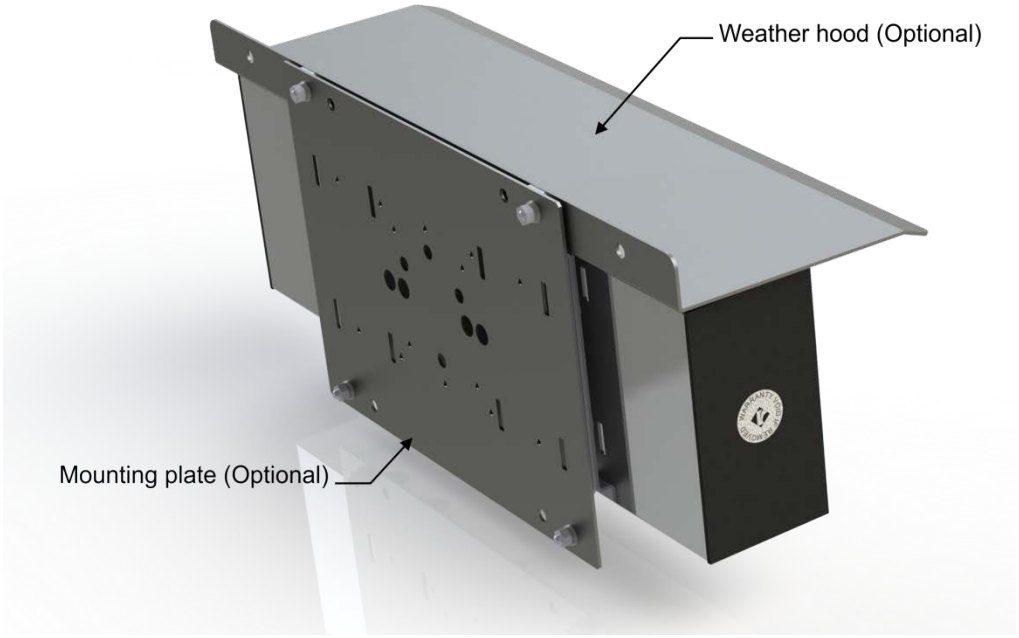


Figure 8 - Optional mounting plate

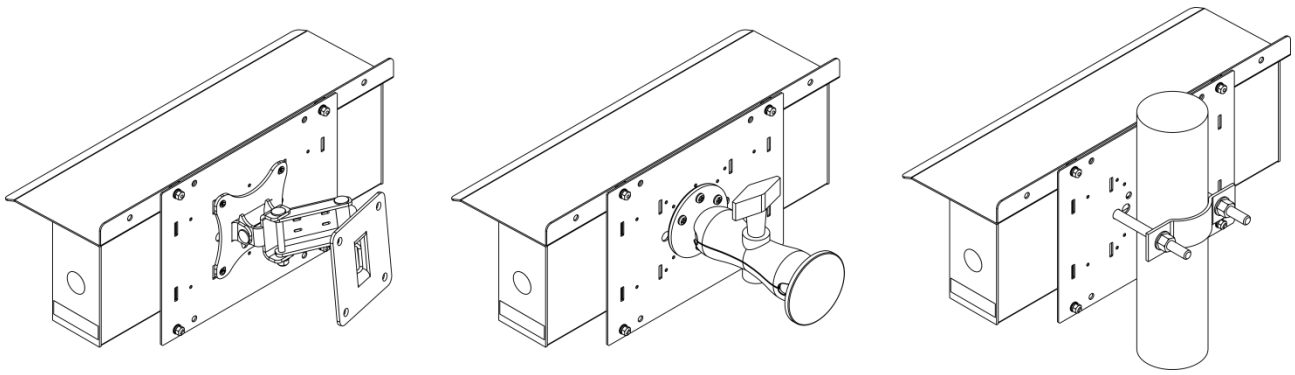


Figure 9 - VESA, RAM and Pole mounting examples

3. Error Messages

Error	Description
--U--	Underweight - the weight is below the minimum allowable weight reading. Check indicator
--O--	Overweight - The weight is above the maximum allowable weight reading. Check indicator
--E--	Error - The indicator is reporting an error. Check indicator
--//--	No valid data from indicator and unit has timed out. Check serial input, protocol/baud/data-bits are supported then power cycle remote to reset.

Appendix A : Supported Protocols

On power up the display will attempt to automatically detect one of the following protocols. Note that compatibility is not guaranteed and manufacturers may change their protocol at any time without notice.

Protocol	Name	Serial Traffic light support	NTEP multi zero support	Protocol commonly used by indicators from:
1	Ranger A	Yes	Yes	Rinstrum, GSE, HBM & PT
2	Ranger C	Yes	Yes	Rinstrum GSE, HBM & PT
5	PCMODE	Yes	No	Custom software

Refer **Remote Display Protocol Manual** for detailed protocol descriptions.

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