

# **LARGE DIGIT DISPLAYS**

580 Series

## **User Guide**

Continuous development may necessitate  
changes in these details without notice

Document Ref: ud580.vp Rev 0



**PROCESS MEASUREMENT, CONTROL & DISPLAY INSTRUMENTATION**

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## **WARNING!**

**It is important that this guide is read and fully understood before attempting installation or commissioning of the instrument. Instructions appearing in this document, and current safety legislation, must be observed to ensure personal safety and to prevent damage to the instrument or equipment connected to it.**

**The instrument should be installed, commissioned and operated *only* by suitably qualified and authorised personnel.**

## **Safety and EMC information**

Safety: EN61010

Immunity: EN50082-1

Emissions: EN50081-1

CE certified



**The specifications for the instrument must not be exceeded. If the instrument is used in a manner not specified, the protection provided by the instrument may be compromised.**



**Ensure that power to the instrument is switched off and signal wiring isolated from hazardous voltages before carrying out installation or maintenance.**



**The product contains no serviceable parts, or internal adjustments. no attempt must be made to repair this product. Faulty units must be returned to supplier for repair.**

**Note: Clean with a moist cloth - USE NO SOLVENTS.**

## Introduction

The 580 Series Large Digit Displays are designed to operate as a one to one system with *one* Tracker T300 series data acquisition unit plus, if required, an optional expansion unit for providing alarm relay outputs. The Tracker T300 series unit forms the measurement module for this system.

**NB In operation with the Display, the T300 unit cannot be used in a MODBUS system.**

## Installation

**PLEASE NOTE:** Instructions for the installation of the Measurement Module is given in the separate publication 'T300 Plus Installation Guide'.



**WARNING: Installation should be conducted by appropriately skilled and authorised personnel only.**

**WARNING: Ensure that power to the instrument is switched off and signal wiring isolated from hazardous voltages before carrying out installation.**

## Location

- Indoor and panel mount versions are designed for installation in a clean, dry environment only.
- Do not install near to switch gear, motor controllers or other sources of strong magnetic fields.
- Install in a well ventilated area avoiding exposure to direct sunlight and ensuring the ambient temperature will not exceed our specification.

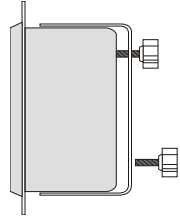
## Mounting the display

### Flush panel mount version (Type 58P)

The 58X-P panel mount version is supplied with two panel clamps.

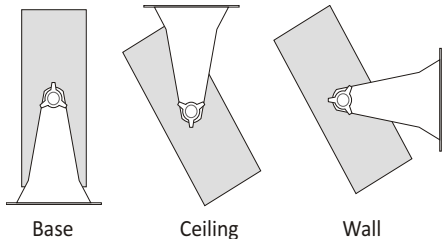
#### Panel cut-outs:

1. 2.3" / 58mm Display  
H 103mm x W 297mm (-0,+1)
2. 2.3" / 58mm Display with legend  
H 103mm x W 360mm (-0,+1)
4. 4" / 102mm Display  
H 158mm x W 495mm (-0,+1)
5. 4" / 102mm Display with legend  
H 158mm x W 587mm (-0,+1)

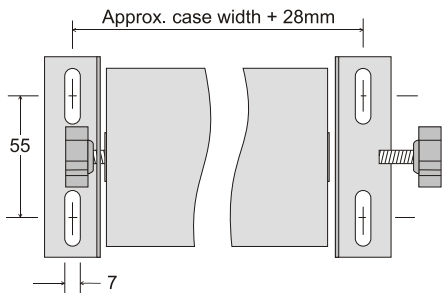


### Base, ceiling or wall mounting

58X-I and 58X-S displays are supplied with 'rotating' tilt-brackets.



### Tilt bracket fixing centres:

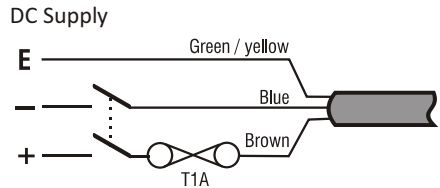
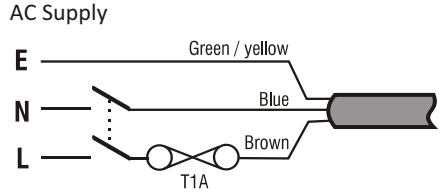


## Wiring and connections



**WARNING:** Ensure that power to the instrument is switched off and signal wiring isolated from hazardous voltages

- Flying leads for both signal and power supply are provided. Both leads exit enclosure via cable glands. Length of each cable length is 2.5m.
- Segregate power supply and signal wiring.
- Use twisted pair screened cable for the signal wiring with the screen earthed at the measurement unit end .



## Power supply connections

This instrument is supplied in *one* of two power supply versions.

1. AC mains supply either: 100 - 260VAC 50/60Hz, 6W (2.3") - 9W (4")
2. DC supply: 24VDC



**WARNING:** Check that the supply voltage on the data label (on back of instrument) is suitable for the application.



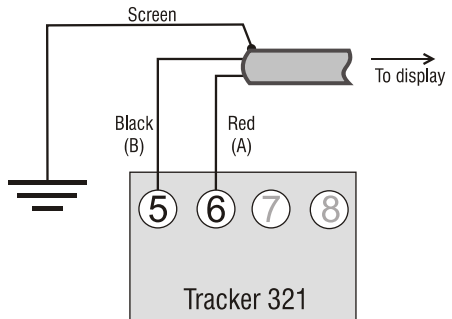
**WARNING:** Ferrules must be used for AC mains power wiring



The display unit must be earthed

**PLEASE NOTE:** Power supply wiring to the instrument must be protected by a 1amp time delay fuse and double pole switch - see *below*. The switch should be clearly marked as the isolating switch for the instrument.

## Signal connections



580 Display (RS485) to T321 connections

# Configuration

## Measurement unit initial setup

1. Refer to the 'T300 Installation Guide' and install the USB driver and configuration software (see "**Configuring the T300**" in the above guide).
2. With the configuration software running and communications with the T321 established, select 'Setup' from the menu, then select 'Comms (RS485)'.
3. Set the Protocol to 'ASCII'
4. Set 'Baud rate' to 9600
5. Select 'Connection' from the menu. Then select 'Transmit Setup'
6. Disconnect USB connection between PC and T321.

## 580 series display setup

There are no adjustments to be made to the display unit. All display configurations are effected by the T300 configuration software. See *Configuration example*.

## Power up and test




1. After first checking power connections, switch on supplies to Display and Measurement Unit.
2. On power up the display will momentarily display '0' in the least significant digit, followed by a measured value reading.
3. If an error message is displayed, refer to table below..

## Maintenance

There are no serviceable parts within the display case.

PLEASE NOTE: any attempt to open the display case will invalidate the warranty  
The display may be cleaned with a soft moist cloth - USE NO SOLVENTS OR ABRASIVES.

## Error messages

Message	Problem	Solution
	No communication	Check RS485 connections are correct - try swapping 'A' and 'B'
	Data received but there are errors in communication.	Check routing of the RS485 cable. Avoid areas near switch gear, motor controllers or other sources of strong magnetic fields.
	The Process Value is too large for the display	Check configuration of the T321 e.g. decimal point position.

## Configuration example

Input signal from transducer: 4-20mA

Display required: 100.00

From T300 Plus Configuration Software menu:

1. Select 'Setup > Input (analogue) > Main input'
2. Under Input Type, select 'mA (-20 to +20)', then click 'OK'
3. Under 'Filtered Value (A2)'
  - (i) Enter a value for 'Averages over' (e.g. 10)
  - (ii) For 'Decimal Point' select '000.00'
  - (iii) For 'Eng. Units (convert to)' select 'User's Eng. Units', then click 'OK'
4. Select 'Setup > Input (analogue) > Main input scaling'
5. For the Calibration points,
  - (i) select '2' for 'Quantity'
  - (ii) For calibration points, enter Eng. Units = 0 for Input of 4mA and Eng. Units = 100 for input of 20mA then click 'OK'
6. Select 'Connection > Transmit setup'
7. Exit the Config. software
8. The T300 may now be powered up.

# Specifications

## Display:

Five digits, high intensity Red LED.

2.3" (58mm) or 4" (102mm) high.

Wall, base, ceiling or panel mounting, steel enclosure.

IP54 Protection (IP65 stainless steel options).

## Input

RS485 from remote measurement module

## Power supply

Universal AC supply 100VAC to 260 VAC 6W (2.3") - 9W (4"), 50/60Hz

Low voltage: 24VDC

## Environmental

Temperature range:

operating 0 to +50 deg C

storage 0 to +60 deg C

Humidity: 5-95% RH non-condensing

## Mechanical

### Connections:

Signal: flying lead, 2-core screened (2.5m)

Power: flying lead 3-core (2.5m)

Both leads exit enclosure via waterproof cable glands

### Enclosures:

Indoor types: powder coated aluminium to IP54

Outdoor: stainless steel to IP65

**Dimensions** (mm): *NB figures in brackets are the width dimensions if a legend is required.*

### **Tilt bracket mounting** (wall, base & ceiling):

(2.3"/58mm indoor) H100 x W294 [347] x D61

(4"/102mm indoor) H155 x W492 [584] x D61

(2.3"/58mm outdoor) H130 x W319 [372] x D80

(4"/102mm outdoor) H182 x W520 [610] x D80

### **Panel mounting:**

(2.3"/58mm bezel dims) H110 x W304 [357] x D61

(panel cut-out -0,+1) H103 x W297[360]

(4"/102mm (bezel dims) H165 x W502 [594] x D61

(panel cut-out -0,+1) H158 x W495 [587]

## Safety & EMC

Safety: EN61010-1

Immunity: EN61326-1: 2006

Emissions: EN61326-1: 2006

CE certified