

DM650TM SENSOR / WALL MOUNTED TEMPERATURE DISPLAY

DM650TM

- > UNIVERSAL RTD OR THERMOCOUPLE INPUT

- > BATTERY POWERED

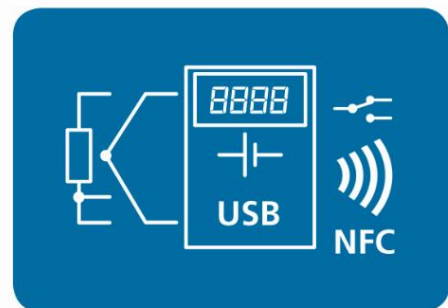
- > USB AND NFC INTERFACE

- > ALARM RELAY / USER SET DISPLAY MESSAGES

- > 5000 POINT DATA LOGGER

- > INTRODUCTION

The DM650TM battery powered indicator accepts RTD or thermocouple temperature sensors and displays the sensor temperature in °C or °F on a 6-digit LCD display. The instrument offers an advanced display mode allowing the user to also display one or two (1 to 32) character messages. Additional to the messages, the user may select an alert event to occur when the temperature is within a band. The change-over relay can be used together with the messaging and alert to provide switching at user-set switch points. In addition to this, on board datalogging is also available to record process details at up to 5000 points.



> FEATURE HIGHLIGHTS

RELAY TRIP

The instrument is equipped with a volt-free change over type relay. The user may select one of seven actions, including deviation operation, with fully adjustable set point and hysteresis. The Relay may be turned off if not required to extend battery life. An option is provided to trigger a display alert event when the relay contact is on. The relay can optionally be used to indicate a low battery condition.

DATA LOGGING FUNCTION

DM650TM also provides a powerful data logging function. The log points can be set up to 5000 points, each point is time and date stamped together with temperature and relay state information.

The log rate is selectable in steps. The start of log can be delayed if required. Either fixed or rolling logs may be performed.

Two methods of reading the log are available. USB interfaced software reads the log and allows the user to save to a text file for export to other programs. The NFC android interface allows data transfer to android phones or tablets and using the downloadable App. The data can be graphed and forwarded by email, Bluetooth etc. The NFC interface is also capable of starting a new log with different log period and modes.

BATTERY POWERED

The instrument is powered by a single AA 3.6 V lithium battery. The battery life is dependent on the number of active features such as the relay contact and alert LED. Battery life 1-year minimum (longer depending on options selected)

REAL TIME CLOCK (RTC)

Date and time can also be displayed with the input temperature. The RTC is also used to time stamp the data logged points which will also give relay state.

DM650TM SENSOR / WALL MOUNTED TEMPERATURE DISPLAY

INPUT RTD (3 Wire)		SPECIFICATIONS @20 °C
Type	Range	Accuracy / stability
Pt100 (IEC)	(-200 to 850) °C	±0.2 °C ±0.05% of reading (plus, sensor error)
Ni100	(-60 to 180) °C	
Ni120	(-70 to 180) °C	
Cu53	(-40 to 180) °C	
Cu100	(-80 to 260) °C	
Thermal drift	0 °C at 20 °C	Typically, 0.01 Ω/°C Example Pt100 0.03 °C/°C
To maintain full accuracy annual calibration is required contact support@status.co.uk for details		

INPUT @20 °C Thermocouple		SPECIFICATIONS
Type	Range	Accuracy / stability
K	(-150 to 1370) °C	±0.1% of full scale ±0.5 °C ± CJ error (plus, sensor error)
J	(-200 to 1200) °C	
N	(-270 to 1300) °C	
E	(-260 to 1000) °C	±0.2% of full scale ±0.5 °C ± CJ error (plus, sensor error)
T	(-270 to 400) °C	
R	(0 to 1760) °C	±0.1% of full scale ±0.5 °C ± CJ error (plus, sensor error) over range (800 to 1760) °C
S	(0 to 1760) °C	
L	(-200 to 900) °C	±0.1% of full scale ±0.5 °C ± CJ error (plus, sensor error)
U	(0 to 600) °C	
B	(0 to 1820) °C	
C	(0 to 2300) °C	
D	(0 to 2300) °C	
G	(0 to 2300) °C	
Thermal drift	0 °C at 20 °C	Typically, ±5 uV/°C
To maintain full accuracy annual calibration is required contact support@status.co.uk for details		

CASE SENSOR / COLD JUNCTION (CJ)		SPECIFICATIONS @20 °C
Type	Range	Accuracy / stability
Thermistor 10K Beta 3380	(-30 to 70) °C	±0.2 °C
Thermal drift	0 °C at 20 °C	±0.05 °C/°C

DISPLAY	
Type / options / function	Description
Display height	7.9 mm non-backlit
Display information options some information is displayed scrolling.	6 digits 14 segment input value plus "Warning", "Transmit", "NFC", "USB", "Log", icons, 8 segment log volume indicators. Maximum, minimum, average *1. Date and time, case temperature. Custom messages for visual alarms/information. Relay condition.
High intensity LED	Alarm and warning options
*1 Rolling average log is independent of data logging	

RELAY	
Type/ options/ function	Description
Type	Single pole change-over (common, N/o, N/c)
Rating	48 VDC maximum @ 1 A (5 mA minimum) 28 VAC RMS maximum @ 1 A

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USB CONFIGURATION USER INTERFACE		
Type / options / function	Description	Notes
Configuration hardware	USB mini B port	Cable not included
Configuration software	USBSpeedLink	Download www.status.co.uk
Operating system	Microsoft Windows	Win 7 or later
Sensor configuration	Select sensor type Trim sensor offset Sensor fail	TC options/RTD options ± 10 °C, ± 18 °F High/ low
Display configuration	Display mode Set display units Display offset for zero (-270 to 5000) °C range	Basic or advanced °C or °F Differential from set point is displayed
Pre-set sensor to setpoint	Locks display value	For diagnostics
Advanced display mode *1	Temperature and or message A, B (32 character) and or alert LED flash. Update every 5 seconds/alternates between message A and B	
Basic display mode	Temperature	
Display Pre-set display messages	Seven custom messages Eight user adjustable temperature bands	Message A and message B options
LED alert	Eight user adjustable temperature bands	Alert LED flash
Warning symbol	Out of range Open circuit Low battery level	Warning symbol will flash on LCD display
Battery monitor	Alert LED plus message	Relay option
Logger	Set device passkey number Clear, start new log	Device passkey is used to protect the NFC interface.
Other device options	Synchronise clock Write tag, contact address Read, reset maximum and minimum values Set device location	To PC system date and time Latitude and Longitude
Relay control	Name Action Set point Dead band	10 characters High/low/band/low battery °C °F °C °F
Live data	Read sensor temperature Read cold junction Relay 1 state	°C °F Internal case temperature Off, on
*1 Advanced display reverts to basic display below -5 °C case temperature.		

USB LOGGER USER INTERFACE		
Type / options / function	Description	Notes
Logger hardware	USB mini B	
Logger software	USBLogLink	Download www.status.co.uk
Operating system	Microsoft Windows	Win 7 or later
Logger	Start, set log parameters	Interval, rate, (delay) start, number of points, rolling or fixed log
	Read log parameters	
	Stop, start new log Reset maximum and minimum Synchronise, read clock	
	View log data, graph log data	Save data to CSV file

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NFC LOGGER USER INTERFACE REQUIRED ANDROID		NFC ENABLED ANDROID DEVICE
Type / options / function	Description	Notes
Logger software	NFCLogLink	@ Google Play Store
Operating system	Android V4.4 Kitkat or later	NFC enabled
Logger	Start, set log parameters	Interval, rate, (delay) start, number of points, rolling or fixed log
	Read log parameters	
	Stop, start new log	
	Synchronise, read clock	
	Reset maximum and minimum	
View log data, graph log data	Save data to text file	
Transfer data via email etc.	Standard Android functions	

GENERAL	
Function	Description
Update rate	5 seconds
Relay response time	< 10 seconds
Battery	1 x (AA 3.6 V lithium)
Battery life	1-year minimum (longer depending on options selected)
Clock accuracy	±2 seconds per month typically

ENVIRONMENTAL	
Function	Description
Ambient temperature	Operating/storage (-30 to 70) °C
Ambient humidity	Operating/storage (10 to 90) %RH non-condensing
Protection	IP67, cable/probe entries must be sealed to IP67 to maintain
USB configuration ambient	(10 to 30) °C

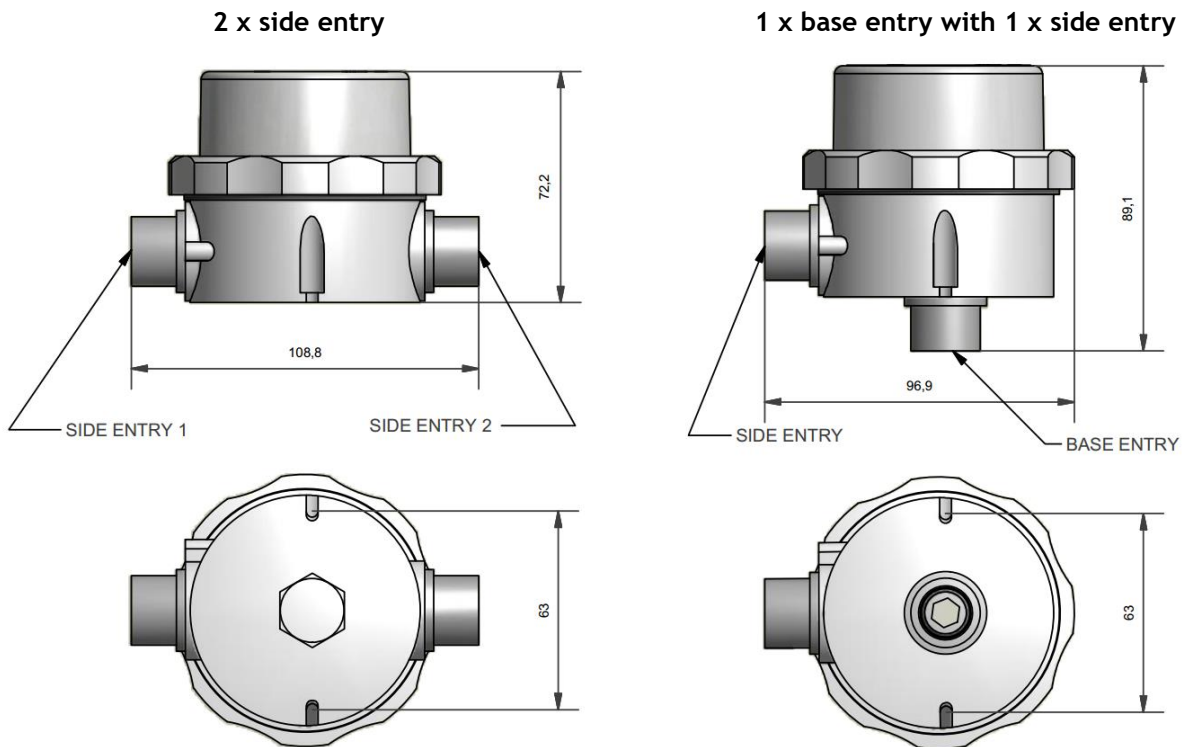
CONNECTIONS	
Function	Description
Input sensor	Two-part screw connector
Output relays	2 x Two-part screw connectors
USB connection	USB mini B socket

MECHANICAL	
Function	Description
Enclosure	ABS, grey base, grey clamp ring
Display cover	Polycarbonate, clear
Case entries	Base and side entry options see ORDER CODES below
Front of display diameter	65 mm
Weight (approximate)	170 g

APPROVALS	
EMC	BS EN 61326: Note - Sensor input wires to be less than 3 m to comply
Ingress protection	BS EN 60529
RoHS	Directive 2011/65/EU

DM650TM SENSOR / WALL MOUNTED TEMPERATURE DISPLAY

DM650TM ORDER CODE					
Case type					Entry options
Wall mount 2 x side entry	B	0	00	option	2420 = 1 x M24 side with 1 x M20 side entries 2020 = 2 x M20 side entries (for flying lead probe) NTNT = 2 x ½ "NPT side entries
Sensor mount 1 x base entry 1 x side entry	C	0	option	00	2420 = M24 base, M20 side entry 2024 = M20 base, M24 side entry (lollypop style) NTNT = ½ "NPT base and side entry
Example 2 x side entry M20 with M20					
DM650TM	B	0	00	20	20
For further options please contact sales@statinst.com					



ACCESSORIES	
USB configuration software	USBSpeedLink free of charge from www.statinst.com
USB logging software	USBLogLink free of charge from www.statinst.com
NFC logging software	NFCLogLink free of charge refer to Google Play Store
USB programming lead	USB programming lead part number 42-200-0001-01
Battery AA 3.6 V lithium	Refer to sales@statinst.com
Calibration certificates	Refer to sales@statinst.com
Probe options	Refer to www.statinst.com

To maintain full accuracy annual calibration is required contact sales@statinst.com for details
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