DM650VI SENSOR/WALL MOUNTED VOLTAGE/mA DISPLAY

> **±50 V / ±50 mA INPUT (loop impedance < 30 R)**

> **ALARM RELAY / USER SET DISPLAY MESSAGING**

> **USB AND NFC INTERFACE**

> **BATTERY POWERED**

> **5000 POINT DATA LOGGER**

> ## INTRODUCTION

The DM650VI is a battery powered indicator. The indicator accepts a signal within the ranges of ±50 V or ±50 mA signal and provides a powerful display interface based on a 6-digit 14 segment LCD display.

User set scaling is provided to allow the user to set process ranges between -999999 and 999999 with full control over decimal point location, with the option to show process units.

A 22-segment user set linearisation/correction function is also offered. The instrument offers an advanced display mode allowing the user to display not only process variables but one or two (1 – 32) character messages. This feature is further enhanced by the ability to split the process range into eight user set bands, each band having independent user selected messages.

> ## 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 adjustable set point and hysteresis. The Relay may be turned off if not required. An option is provided to trigger a display alert event when the relay contact is on.

DATA LOGGING FUNCTION
The DM650VI also provides a powerful data logging function. The number of log points can be set up to 5000, each point is time and date stamped together with input process value (PV) 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 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 via the Android app.

TEMPERATURE TRANSMITTER COMPATIBLE
As well as working with any voltage or mA signal, the DM650VI has space inside its housing to mount a standard 33 mm centre, head mount, (4 to 20) mA temperature transmitter. Any of the Status Instruments range of temperature transmitters can be used with the DM650VI to give a local temperature display. The temperature display mode takes advantage of the sixth digit to display engineering units. The DM650VI will add no noticeable load to a (4 to 20) mA loop.
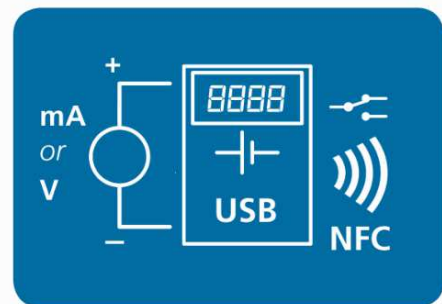
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DM650VI SPECIFICATIONS

ELECTRICAL INPUT		SPECIFICATIONS @20°C
Range + Options	**Accuracy**	**Stability**
±50 V (full ±55 V)	± 10 mV	0.01 % / °C
±50 V resolution	±0.6 mV	
±50 mA (Full ±55 mA)	± 10 uA	0.01 % / °C
±50 mA resolution	±0.6 uA	
Max voltage	±56 V	
Max current	± 100mA	
Current loop impedance	< 30 Ohms	Loop volt drop of less than 0.6 V
Protection	Resettable fuse 120 mA	Reverse connection
To maintain full accuracy annual calibration is required contact support@status.co.uk for details		

DISPLAY	
Type / options / function	**Description**
Display height	7.9 mm non-backlit
Display information options some information is displayed scrolling *1	6 digits 14 segment input value plus "Warning"," Transmit", "NFC", "USB", icons, 8 segment log volume/signal indicators. Date and time. Custom messages for visual alarms/information. Relay condition.
Display range	-999999 to 999999 numeric with °C, °F, °R, K in temperature mode
Decimal place	None to 5 places
High intensity LED	Alarm and warning options
*1 Below –5°C ambient temperatures scrolling messages are not practical due to the update speed of the LCD display. Below this use basic mode only.	

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

USB CONFIGURATION USER INTERFACE		
Type / options / function	**Description**	**Notes**
Configuration hardware	USB mini B port	A to mini B cable required
Configuration software	USBSpeedLink	Download www.status.co.uk
Operating system	Microsoft Windows	Win 7 or later
Configuration	Select user non-linearization Decimal point	Up to 22 data points Adjustable
Display configuration	Display mode	Basic and advanced
Pre-set sensor to setpoint mA	Locks display value	For diagnostics
Basic display mode	Bar graph as mA or % log fill and alert LED options	
Advanced display mode *1	Process value and or message A, B (32 character) and or alert LED flash. Update every 5 seconds/alternates between message A and B	
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	Warning symbol will flash on
Battery monitor	Alert LED plus message	Relay option

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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 Location settings Android passkey	To PC time setting 24 characters Non-volatile memory Latitude and longitude Set for Android app
Relay control	Name Action Set point Dead band	10 characters High/low/band/low battery Displayed units Displayed units
Live data	Read input value Read display value Relay state	mA loop signal Scaled volt/mA value Off/on
*1 Below –5˚C ambient temperatures scrolling messages are not practical due to the update speed of the LCD display. Below this use basic mode only.		

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

NFC LOGGER USER INTERFACE ANDROID	NFC ENABLED ANDROID DEVICE REQUIRED	
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 Read log parameters	Interval/rate/(delay) start/ number of points/rolling or fixed log
	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

STATUS INSTRUMENTS

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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 relay	Two-part screw connector
USB connection	USB mini B socket

MECHANICAL	
Function	**Description**
Enclosure	ABS, grey base, grey clamp ring
Display cover	Polycarbonate, clear
Case entries	M24 or M20 see ORDER CODES below
Front of display diameter	65 mm
Weight (approximate)	170 g

APPROVALS	
Function	**Description**
EMC	BS EN 61326
Ingress protection	BS EN 60529
RoHS	Directive 2011/65/EU

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DM650VI ORDER CODES

Case	Style	**	Base entry	Side 1 entry	Side 1 entry	
Wall mount 2 x side entry	B	0	00	20	20	Wall/surface mounting Side entry M20 x 2
Sensor mount 1 x side entry 1 x base entry	C	0	24	20	00	Sensor mounting to M20 side entry M24 base entry
Sensor mount 1 x side entry 1 x base entry	C	0	20	24	00	Sensor mounting (lollipop style) to M24 side entry M20 base entry
Example: - M20 base entry with M24 side entry						
DM650VI	**C**	**0**	**20**	**24**	**00**	
For further options please contact sales@status.co.uk						

Style B, 2 x side entry

SIDE ENTRY 1   SIDE ENTRY 2
72,2
108,8
63
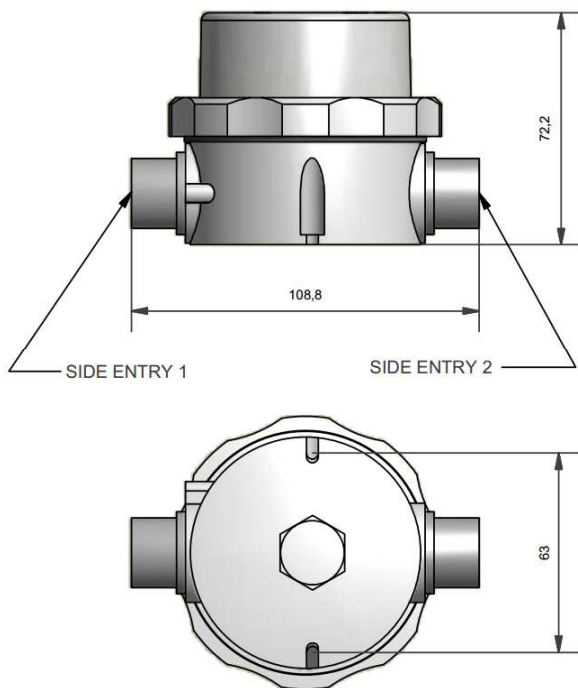
Style C, 1 x side entry, 1 x base entry

SIDE ENTRY   BASE ENTRY
89,1
96,9
63
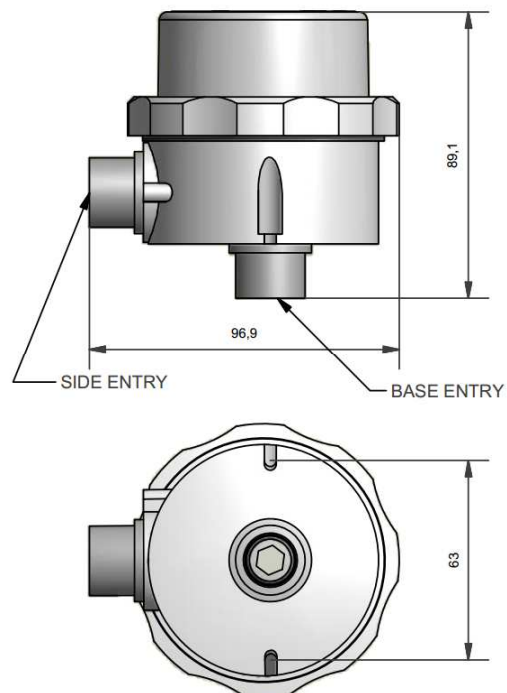
Dimentions in mm

ACCESSORIES

Configuration software	USBSpeedLink free of charge from www.status.co.uk
USB logging software	USBLogLink free of charge from www.status.co.uk
NFC logging software	NFCLogLink free of charge refer to Google Play Store
USB programming lead	USB A to mini B programming lead part number 42-200-0001-01
Battery 3.6 V lithium	Refer to sales@status.co.uk
Calibration certificates	Refer to sales@status.co.uk

To maintain full accuracy annual calibration is required contact support@status.co.uk for details
The data in this document is subject to change. Status Instruments assumes no responsibility for errors

STATUS INSTRUMENTS