

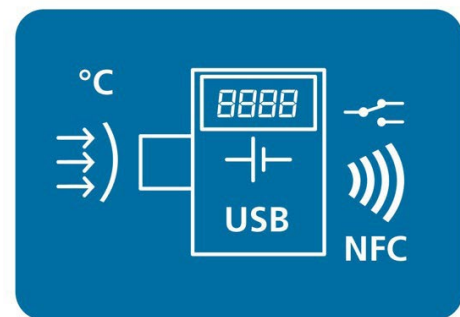
# DM650PM FIELD PRESSURE DISPLAY

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- **PRESSURE/TEMPERATURE DISPLAY WITH PRESSURE LOGGING**
- **GAUGE OR ABSOLUTE**
- **ALARM RELAY, MAX/MIN INFORMATION**
- **USER-SET DISPLAY MESSAGING**
- **UP TO 5000 POINT DATA LOGGER (USB or COMPATIBLE ANDROID DEVICE)**

## ➤ INTRODUCTION

The DM650PM battery powered indicator accepts gauge or absolute pressure and displays the sensor pressure in bar, PSI or the user's engineering unit 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 pressure is within a band. A change-over relay can be used together with the messaging and alerts to provide switching at user-set points. In addition to this, on-board datalogging is also available to record pressure and temperature details at up to 3600 points. Force calculations (Ram force for example) can also be performed and displayed.



## ➤ FEATURE HIGHLIGHTS

### RELAY

The instrument is equipped with single volt-free changeover-type relay. The user may select one of several actions, including deviation operation, with fully adjustable set point and dead band. An option is provided to trigger an alert-event when a relay contact is on.

### DATA LOGGING FUNCTION FOR PRESSURE

DM650PM also provides a powerful data logging function. The log points can be set up to 3600 points; each point is time and date-stamped together with pressure, 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. The USB configuration reads the log and allows the user to save to a text file for export to other programmes. The NFC android interface allows data transfer to compatible android phones or tablets, by 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.

### CALIBRATION/USER-LINEARISATION

5-point calibration can be applied using the USBSpeedLink software.

As well as straight line interpolation, up to 22 points (x,y) of user-linearisation are available for creating custom curves and corrections.

### REAL-TIME CLOCK

Date and time can also be displayed with the input pressure. The real-time clock is used to record the data logged points.

# DM650PM FIELD PRESSURE DISPLAY

| INPUT Pressure                                                                                        |                            |          | SPECIFICATIONS @20°C                                |
|-------------------------------------------------------------------------------------------------------|----------------------------|----------|-----------------------------------------------------|
| Type                                                                                                  | bar Gauge = bar Absolute   |          | Accuracy/stability                                  |
| Standard Range    MOQ1                                                                                | -1 to 9                    | 0 to 10  | Gauge *1<br>/ Total ±1% *3<br>/ ±0.2% F.S. per year |
| All other ranges. MOQ 5 pieces                                                                        | 0 to 2                     | 1 to 3   |                                                     |
|                                                                                                       | 0 to 30                    | 1 to 31  |                                                     |
|                                                                                                       | 0 to 100                   | 1 to 101 |                                                     |
|                                                                                                       | 0 to 600                   | 1 to 601 |                                                     |
| Overpressure                                                                                          | 1.5 x full scale           |          |                                                     |
| Burst pressure                                                                                        | 3 x full scale             |          |                                                     |
| Thermal drift                                                                                         | (-10 to 80) °C compensated |          |                                                     |
| *1 Shows zero bar at 1.0 bar absolute, use custom scaling to display as absolute                      |                            |          |                                                     |
| *2 Linearity best straight line, hysteresis, repeatability                                            |                            |          |                                                     |
| *3 Total error band: Maximum deviation within specified pressure and operating temperature range      |                            |          |                                                     |
| To maintain full accuracy annual calibration is recommended: contact support@status.co.uk for details |                            |          |                                                     |

| INPUT Temperature  |                |                                    | SPECIFICATIONS @20°C |
|--------------------|----------------|------------------------------------|----------------------|
| Type               | Range          | Accuracy/stability                 |                      |
| Medium temperature | (-40 to 110)°C | Typically, $\pm 2.0^\circ\text{C}$ |                      |

| DISPLAY                                                                 |                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type/options/function                                                   | Description                                                                                                                                                                                                               |
| Display height                                                          | 7.9 mm non-backlit                                                                                                                                                                                                        |
| Display information options<br>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. Date and time. Custom messages for visual alarms/information. Relay condition. |
| High intensity LED                                                      | Alarm and warning options                                                                                                                                                                                                 |

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

| USB CONFIGURATION USER INTERFACE |                                                        |                                                                                                                                                                |
|----------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type/options/function            | Description                                            | Notes                                                                                                                                                          |
| Configuration hardware           | USB Mini B port                                        | Cable not included                                                                                                                                             |
| Configuration software           | USBSpeedLink                                           | Download <a href="http://www.status.co.uk">www.status.co.uk</a>                                                                                                |
| Operating system                 | Microsoft Windows                                      | Win 7 or later                                                                                                                                                 |
| Sensor configuration             | User calibration<br>Off-set in Bar                     | Up to 5 points<br>Applied by button action                                                                                                                     |
| Display configuration            | Display mode<br><br>Pressure units<br><br>Custom units | Basic with advanced options<br>°C or °F<br>Bar, PS I, mBar, Pa, KPa, MPa<br>Kgf/m², Kgf/cm², Kgf/mm²<br>Atm, custom units (any)<br>With 22-point linearization |
| Pre-set sensor to setpoint       | Locks input value to setpoint                          | For diagnostics                                                                                                                                                |
| LED alert (advanced mode)        | Eight user adjustable pressure bands                   | Alert LED flash                                                                                                                                                |
| Warning symbol                   | Out of range<br>Low battery level                      | Warning symbol will flash on LCD display                                                                                                                       |

## DM650PM FIELD PRESSURE DISPLAY

| USB CONFIGURATION USER INTERFACE<br>(Continued)                                      |                                                                                                                                |                                                                                                                   |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Basic display mode                                                                   | Update rate<br>Display variable options<br><br>Temperature units<br>Alert LED                                                  | 1 s, 5 s<br>Input, input + units, input + units + temperature<br>°C or °F                                         |
| Advanced display mode *1                                                             | Display variable (see basic mode) with messaging options                                                                       |                                                                                                                   |
| Battery monitor                                                                      | Alert LED plus message                                                                                                         | Relay option link in software                                                                                     |
| Logger                                                                               | Set device passkey number<br>Clear, start new log                                                                              | Device passkey is used to protect the NFC interface.                                                              |
| Other device options                                                                 | Synchronise clock<br>Write tag, contact address<br>Read, reset maximum and minimum input values<br>Latitude longitude settings |                                                                                                                   |
| Relay control                                                                        | Name(s)<br>Action<br>Setpoint<br>Dead band<br>Latch                                                                            | 10 characters<br>High, low, band, low battery, on, off<br>In engineering units<br>In engineering units<br>On, off |
| Live data                                                                            | Read sensor pressure<br>Read displayed value<br>Read sensor temperature<br>Relay 1 state. Relay 2 state<br>Time and date       | bar<br>Selected engineering unit<br>°C                                                                            |
| *1 Only use advanced display above -5°C ambient temperature, below use basic display |                                                                                                                                |                                                                                                                   |

| USB LOGGER USER INTERFACE                                        |                                                                                                         |                                                                       |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Type/options/function                                            | Description                                                                                             | Notes                                                                 |
| Logger hardware                                                  | USB Mini B port                                                                                         | Cable not included                                                    |
| Logger software                                                  | USBLogLink                                                                                              | Download <a href="http://www.status.co.uk">www.status.co.uk</a>       |
| Operating system                                                 | Microsoft Windows                                                                                       | Win 8 or later                                                        |
| Logger records pressure and temperature points.<br>Maximum 3600. | Start/set log parameters                                                                                | Interval, rate, (delay) start, number of points, rolling or fixed log |
|                                                                  | Read log parameters                                                                                     |                                                                       |
|                                                                  | Stop, start new log<br>Synchronise device clock<br>Reset maximum and minimum<br>Synchronise, read clock |                                                                       |
|                                                                  | View log data, graph log data                                                                           | Save data to CSV file                                                 |

| NFC ENABLED ANDROID DEVICE REQUIREMENTS                                                              |                                                                   |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Tag Type                                                                                             | NFC Forum Tag Type 4 (max capacity 65536 Bytes)                   |
| RF Interface                                                                                         | ISO/IEC 14443 Type B Compliant (13.56 MHz)                        |
| Android device                                                                                       | Compatibility to read NFC Tag type 4 to full capacity 65536 bytes |
| Note: If the android device cannot read full bytes the maximum number of log points will be reduced. |                                                                   |

# DM650PM FIELD PRESSURE DISPLAY

| NFC LOGGER USER INTERFACE<br>ANDROID                             |                               |                                                                       |
|------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------|
| Type/options/function                                            | Description                   | Notes                                                                 |
| Logger software                                                  | NFCLogLink                    | Download from <a href="http://www.status.co.uk">www.status.co.uk</a>  |
| Operating system                                                 | Android V6 or later           | NFC enabled                                                           |
| Logger records pressure and temperature points.<br>Maximum 1800. | 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         | 1 or 5 seconds                                              |
| Relay response time | < 10 seconds                                                |
| Battery             | 1 x (AA 3.6 V lithium)                                      |
| Battery life        | 1 year minimum @20°C (longer depending on options selected) |
| Clock accuracy      | ±2 seconds per month typically                              |

| ENVIRONMENTAL               |                                                 |
|-----------------------------|-------------------------------------------------|
| Function                    | Description                                     |
| Ambient housing temperature | Operating/storage (-30 to 70)°C                 |
| Ambient sensor temperature  | Operating (-40 to 110)°C                        |
| Ambient humidity            | Operating/storage (10 to 90) %RH non-condensing |
| Protection                  | IP67, cable entry must be sealed to IP67        |
| USB configuration ambient   | (10 to 30)°C                                    |

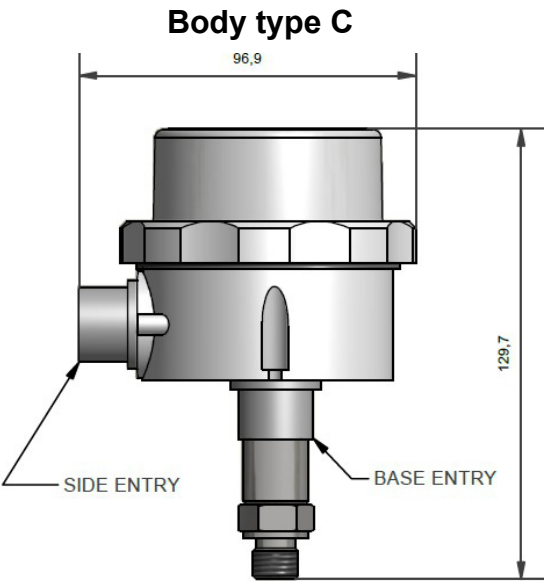
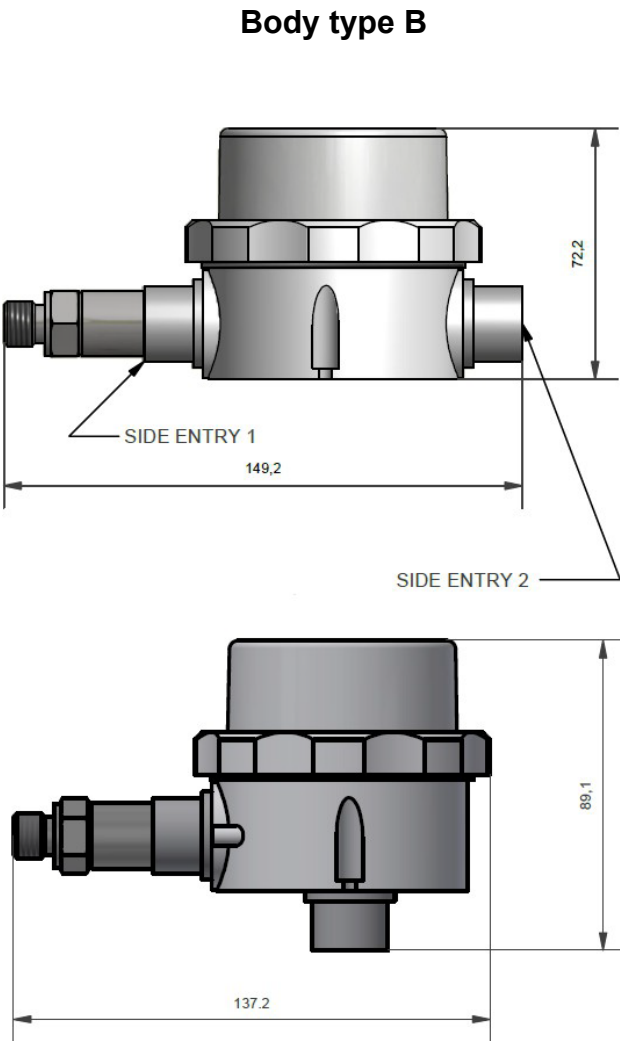
| CONNECTIONS       |                                                        |
|-------------------|--------------------------------------------------------|
| Sensor to process | ¼ inch BSP male with adaptor options (see accessories) |
| Output relay      | Two-part screw connectors                              |
| USB connection    | USB mini B port                                        |

| MECHANICAL                     |                                                             |
|--------------------------------|-------------------------------------------------------------|
| Enclosure (case)               | ABS, grey base, grey clamp ring, side or base mount options |
| Display cover                  | Polycarbonate, clear                                        |
| Case entry                     | 1 x M20 female thread, blanking plug supplied               |
| Front bezel diameter           | 65 mm                                                       |
| Weight (approximate)           | 250 g                                                       |
| Material in contact with media | Stainless steel 316L                                        |
| O-ring                         | Viton                                                       |

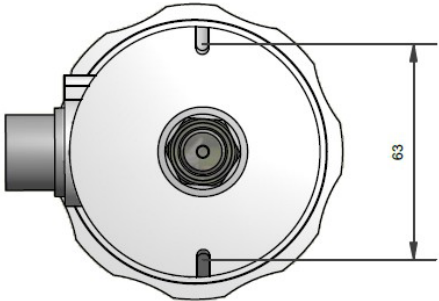
| APPROVALS          |                      |
|--------------------|----------------------|
| EMC                | BS EN 61326          |
| Ingress protection | BS EN 60529          |
| RoHS               | Directive 2011/65/EU |

DM650PM FIELD PRESSURE DISPLAY

| ORDER CODE                                                              |           | DM650PM/ Body type / Range                 |                                                                                                                                                                     |
|-------------------------------------------------------------------------|-----------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Case                                                                    | Body Type | Order Input range required in bar gauge    |                                                                                                                                                                     |
| Side Cable Entry<br>Side Probe Entry                                    | / B       | /Range option                              | C = (0 to 2)<br>D = (0 to 30)                      E = (-1 to 9)<br>G = (0 to 100)                    H = (0 to 600)<br>See Input specification for absolute ranges |
| Base Probe Entry<br>Side Cable Entry                                    | / C       | /Range option                              |                                                                                                                                                                     |
| Base Cable Entry<br>Side Probe Entry                                    | / F       | /Range option                              |                                                                                                                                                                     |
|                                                                         |           |                                            |                                                                                                                                                                     |
| Example:<br>Side mounted probe, M20 Base cable entry,<br>(0 to 30) bar. |           | Default cable entry M20 with blanking plug |                                                                                                                                                                     |
| DM650PM                                                                 | /F        | /D                                         |                                                                                                                                                                     |



**Body type F**



## DM650PM FIELD PRESSURE DISPLAY

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| ACCESSORIES                            |                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------|
| Swivel adaptor ¼ BSPP                  | SA14BSP                                                                                 |
| Swivel adaptor ½ BSPP                  | SA12BSP                                                                                 |
| Swivel adaptor ¼ NPT                   | SA14NPT                                                                                 |
| Swivel adaptor other options available | sales@status.co.uk                                                                      |
| Hygienic fittings available            | sales@status.co.uk                                                                      |
| Configuration software                 | USBSpeedLink free of charge from <a href="http://www.status.co.uk">www.status.co.uk</a> |
| USB logging software                   | USBLogLink free of charge from <a href="http://www.status.co.uk">www.status.co.uk</a>   |
| NFC logging software                   | NFCLogLink free of charge from <a href="http://www.status.co.uk">www.status.co.uk</a>   |
| USB lead                               | USB lead, part number 42-200-0001-01                                                    |
| Battery 3.6 V lithium                  | Contact sales@status.co.uk                                                              |

To maintain full accuracy annual calibration is required: Contact [support@status.co.uk](mailto:support@status.co.uk) for details  
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