ABB MEASUREMENT & ANALYTICS | INSTRUCTION MANUAL | CI/AWT540-EN REV. C

# Navigator 540
Transmitter


## Measurement made easy

Navigator 540 transmitter

## Introduction

This publication provides commissioning instructions for the Navigator 540 transmitter. The transmitter can be used to monitor up to 4 Navigator 550 wet-sections (sodium, hydrazine and low level dissolved oxygen).

## For more information

Further publications for the Navigator 500 analyzer are available for free download from
www.abb.com/measurement

or by scanning this code:

| | Search for or click on |
|---|---|
| Operating Instruction<br>Navigator 500<br>Sodium analyzer | OI/ASO550-EN |
| Operating Instruction<br>Navigator 500<br>Hydrazine analyzer | OI/AHM550-EN |
| Operating Instruction<br>Navigator 550<br>Low level dissolved oxygen analyzer | OI/ADS550-EN |

# Health & Safety

## Safety precautions

Be sure to read, understand and follow the instructions contained within this manual before and during use of the equipment. Failure to do so could result in bodily harm or damage to the equipment.

**Warning.** Installation, operation, maintenance and servicing must be performed:

- by suitably trained personnel only
- in accordance with the information provided in this manual
- in accordance with relevant local regulations

## Potential safety hazards

### Electrical

**Warning.** To ensure safe use when operating this equipment, the following points must be observed:

- Up to 240V AC may be present. Be sure to isolate the supply before removing the terminal cover.
- Normal safety precautions must be taken to avoid the possibility of an accident occurring when operating in conditions of high pressure and / or temperature.

Safety advice concerning the use of the equipment described in this manual or any relevant Material Safety Data Sheets (where applicable) can be obtained from the Company, together with servicing and spares information.

## Safety standards

This product has been designed to satisfy the requirements of IEC61010-1:2010 3rd edition 'Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use' and complies with US NEC 500, NIST and OSHA.

## Safety conventions

**Warning.** In this manual, a warning is used to indicate a condition which, if not met, could cause serious personal injury and / or death. Do not proceed beyond a warning until all conditions have been met.

**Caution.** A caution is used to indicate a condition which, if not met, could cause minor or moderate personal injury and / or damage to the equipment. Do not proceed beyond a caution until all conditions have been met.

**Note.** A note is used to indicate important information or instructions that should be considered before operating the equipment.

### Symbols

Symbols that appear on this product are shown below:

| | |
|---|---|
|  | Functional earth (ground) terminal. |
|  | Protective earth. |
|  | Alternating current supply only. |
|  | This symbol, when noted on a product, indicates a potential hazard which could cause serious personal injury and / or death. The user should reference this instruction manual for operation and / or safety information. |
|  | This symbol, when noted on a product enclosure or barrier, indicates that a risk of electrical shock and / or electrocution exists and indicates that only individuals qualified to work with hazardous voltages should open the enclosure or remove the barrier. |
|  | Recycle separately from general waste under the WEEE directive |

### Product recycling and disposal (Europe only)

| | |
|---|---|
|  | Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August 2005. To conform to European local and national regulations (EU Directive 2002/96/EC), European electrical equipment users must now return old or end-of-life equipment to the manufacturer for disposal at no charge to the user.<br>ABB is committed to ensuring that the risk of any environmental damage or pollution caused by any of its products is minimized as far as possible. |

**Note.** For return for recycling, please contact the equipment manufacturer or supplier for instructions on how to return end-of-life equipment for proper disposal.

### Restriction of Hazardous Substances (RoHS)

| | |
|---|---|
|   | The European Union RoHS Directive and subsequent regulations introduced in member states and other countries limits the use of six hazardous substances used in the manufacturing of electrical and electronic equipment. Currently, monitoring and control instruments do not fall within the scope of the RoHS Directive, however ABB has taken the decision to adopt the recommendations in the Directive as the target for all future product design and component purchasing. |

# Specification

## Electrical

### Power supply ranges

100 to 240 V AC max., 50 / 60 Hz ± 10 %
(90 to 264 V AC, 45/65 Hz)

### Power consumption

<10W

### Terminal connections rating

AWG 26 to 16 (0.14 to 1.5 $mm^2$)

### Analog outputs

2 standard
2 optional

Galvanically isolated from the rest of the circuitry, 500 V for 1 minute. Range-programmable source and range 0 to 22 mA, maximum load 750 Ω @ 20 mA.

### Relay outputs

4 standard
2 optional

Fully-programmable. Contacts rated at 5A @ 110 / 240 V. Standard relays are changeover. Optional relays are normally closed (N/C).

### Digital inputs / outputs

6 standard, user-programmable as input or output.

Minimum input pulse duration: 125 mS.

Input – volt-free or 24 V DC (conforms to IEC 61131-2).

Output – open-collector, 30 V, 100 mA max.
(conforms to IEC 61131-2).

# 1 Locating the transmitter

For transmitter general location requirements refer to Fig. 1. Install in a clean, dry, well ventilated and vibration-free location providing easy access. Avoid rooms containing corrosive gases or vapors, for example, chlorination equipment or chlorine gas cylinders.

**Warning.** The transmitter is not fitted with a switch – an isolation device such as a switch or circuit breaker conforming to local safety standards must be fitted to the final installation. It must be fitted in close proximity to the transmitter, within easy reach of the operator and marked clearly as the isolation device for the transmitter.

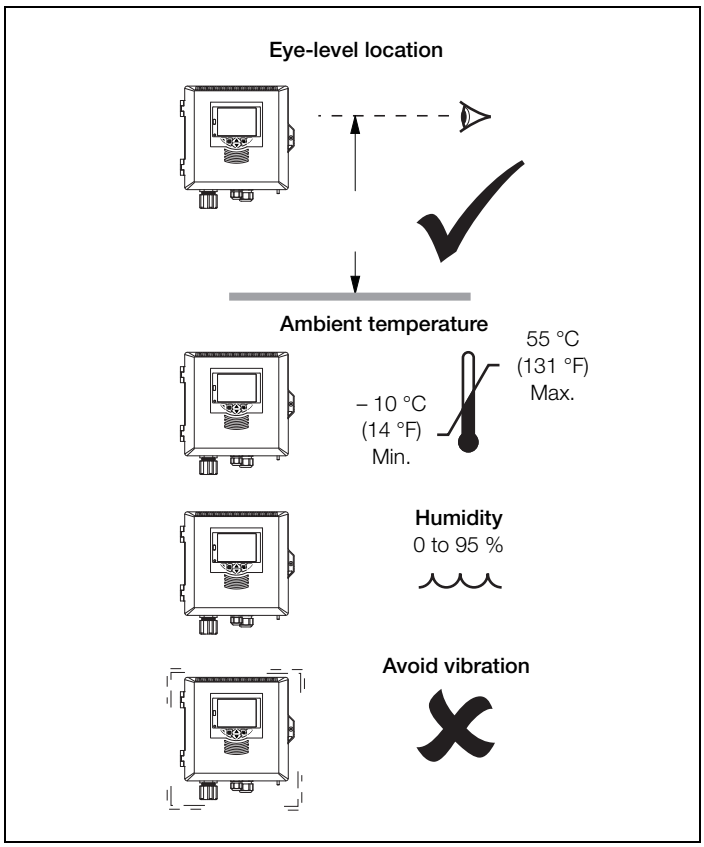


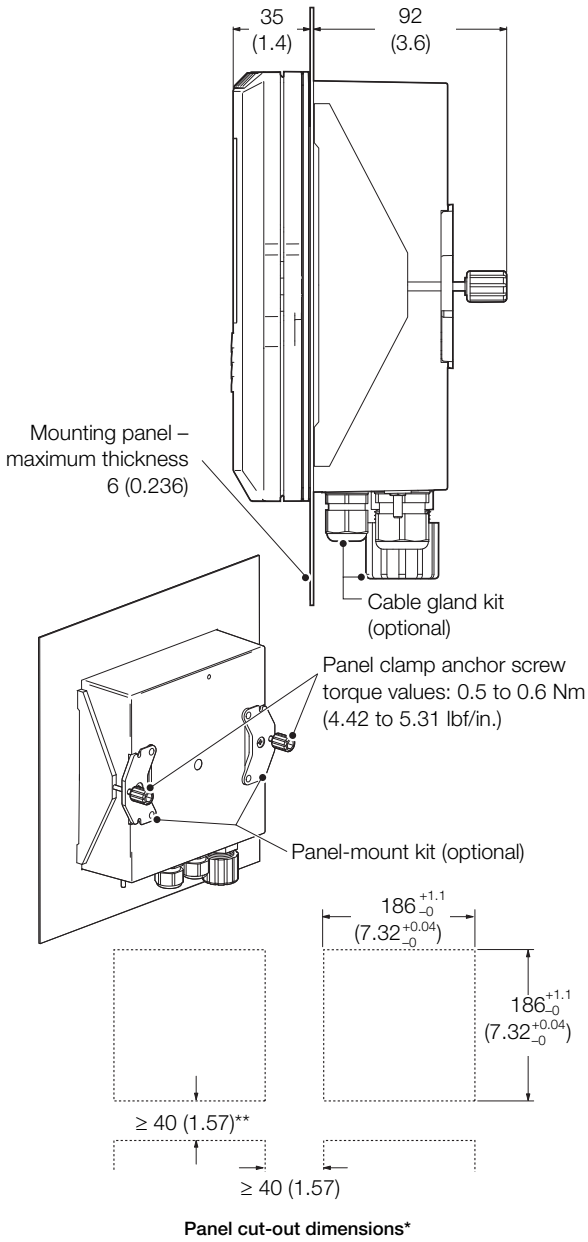

*Fig. 1 Transmitter location*

# 2 Mounting the transmitter

The transmitter weighs 1.5 kg (3.3 lb).

### Panel mounting

Dimensions in mm (in.)




**Panel cut-out dimensions***

* To DIN43700

**≥150 mm (6 in.) if (optional) cable glands fitted

*Fig. 2 Transmitter panel-mount option*

## Pipe mounting

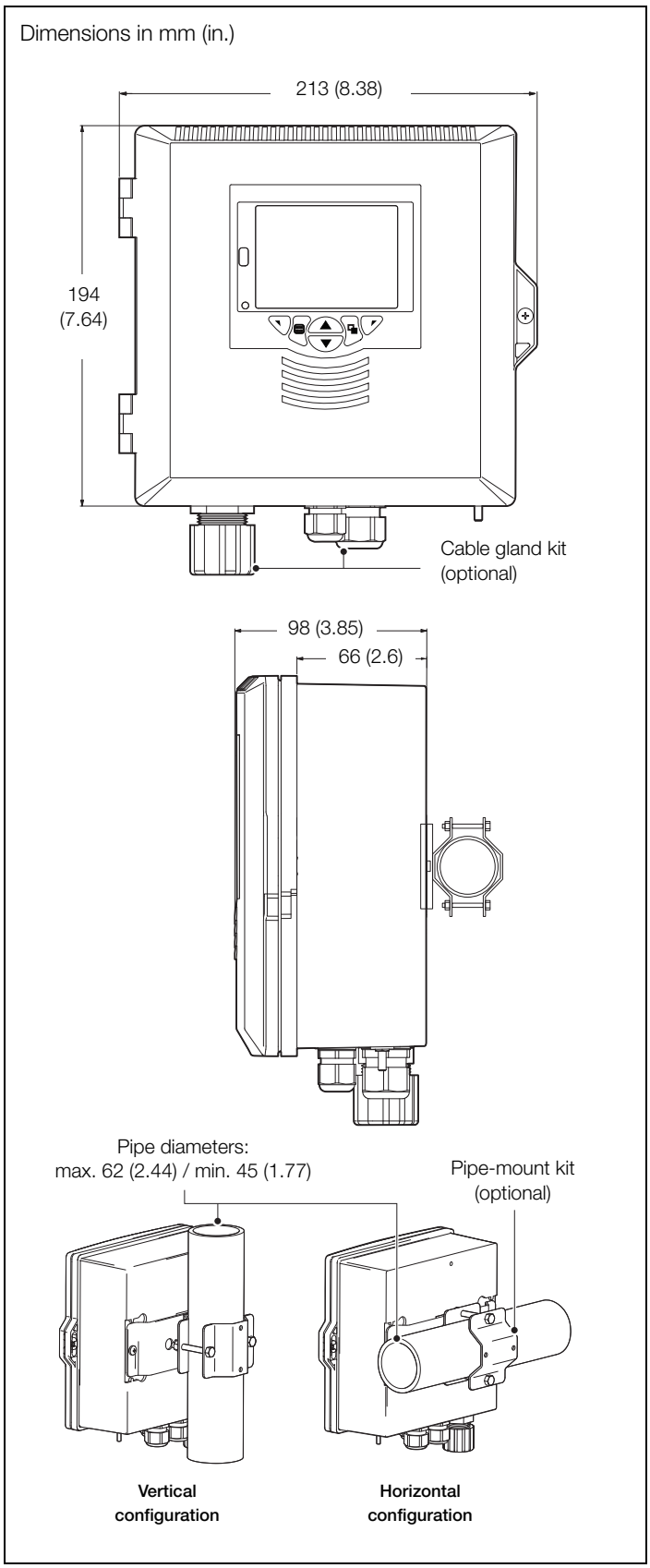



*Fig. 3 Transmitter pipe-mount options*

## Wall mounting

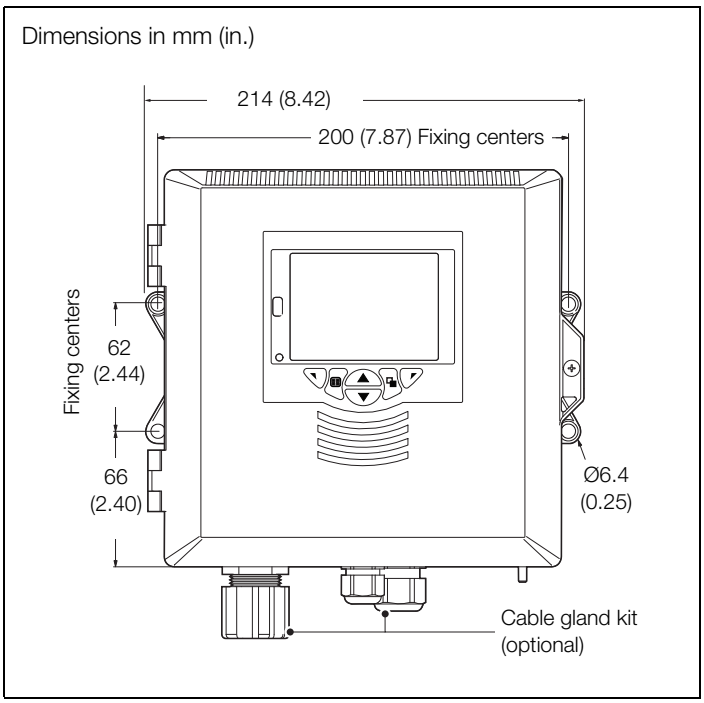



*Fig. 4 Transmitter wall-mount option*

# 3 Electrical connections

**Warning.**

- If the transmitter is used in a manner not specified by the Company, the protection provided by the equipment may be impaired.
- Remove all power from supply, relay, any powered control circuits and high common mode voltages before accessing or making any connections. Use cable appropriate for the load currents: 3-core cable rated 3 A and 75 °C (167 °F) minimum, and voltage: 100 / 240 V that conform to either IEC 60227 or IEC 60245, or to the National Electrical Code (NEC) for the US, or the Canadian Electrical Code for Canada. The terminals accept cables AWG 26 to 16 (0.14 to 1.5 $mm^2$).
- Ensure the correct fuses are fitted – see Fig. 6 for fuse details.
- Replacement of the internal battery must be carried out by an approved technician only.
- The transmitter conforms to Installation Category II of IEC 61010.
- All connections to secondary circuits must have insulation to required local safety standards. After installation, there must be no access to live parts, for example, terminals. Use screened cable for signal inputs and relay connections. Route signal leads and power cables separately, preferably in an earthed (grounded) flexible metal conduit.
- All equipment connected to the transmitter's terminals must comply with local safety standards (IEC 60950, EN61010-1).
- The ethernet and bus interface connectors must only be connected to SELV circuits.

**USA and Canada Only**

- The supplied cable glands are provided for the connection of signal input and ethernet communication wiring ONLY.
- The supplied cable glands and use of cable / flexible cord for connection of the mains power source to the mains input and relay contact output terminals is not permitted in the USA or Canada.
- For connection to mains (the mains input and relay contact outputs), use only suitably rated field wiring insulated copper conductors rated min. 300 V, 16 AWG, 90C. Route wires through suitably rated flexible conduits and fittings.

## Accessing the connection board

**Note.** Before fitting cable glands, identify the connections required and cable gland entries to be used.

Referring to Fig. 5:

1. Using a pozi-drive screwdriver, turn the (captive) electronics section door retaining screw (A) 1/4 turn counter-clockwise and open the door.
2. Turn the cover plate retaining screw (B) anti-clockwise until the cover plate (C) can be removed.
3. Make connections to transmitter connection board terminals – see Fig. 6.
4. Refit cover plate (C) and secure it by turning retaining screw (B) clockwise until finger-tight. Close the door to the electronics section and turn door retaining screw (A) 1/4 turn clockwise to secure.

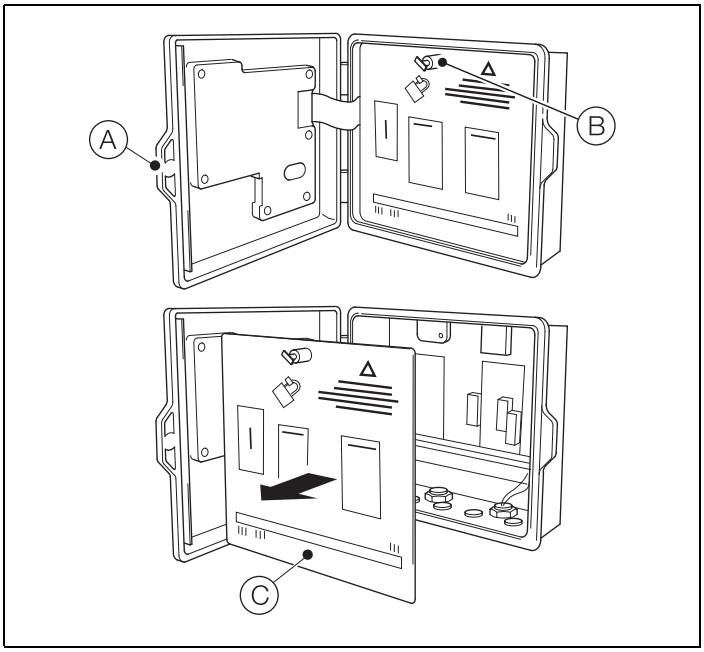



*Fig. 5 Accessing the transmitter board and making electrical connections*

## Transmitter connection board

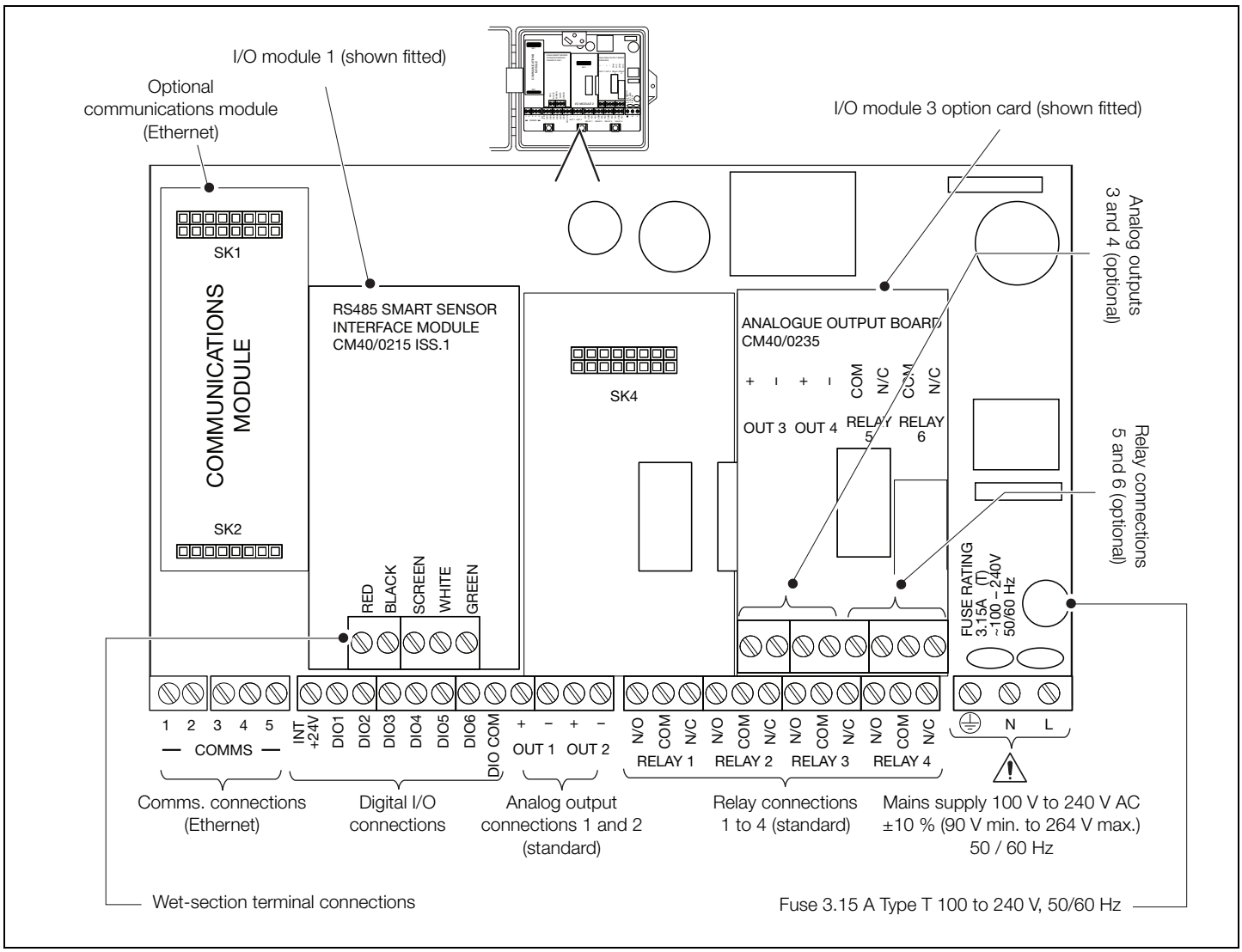



*Fig. 6 Transmitter connection board*

## Digital I/O, relays and analog output connections

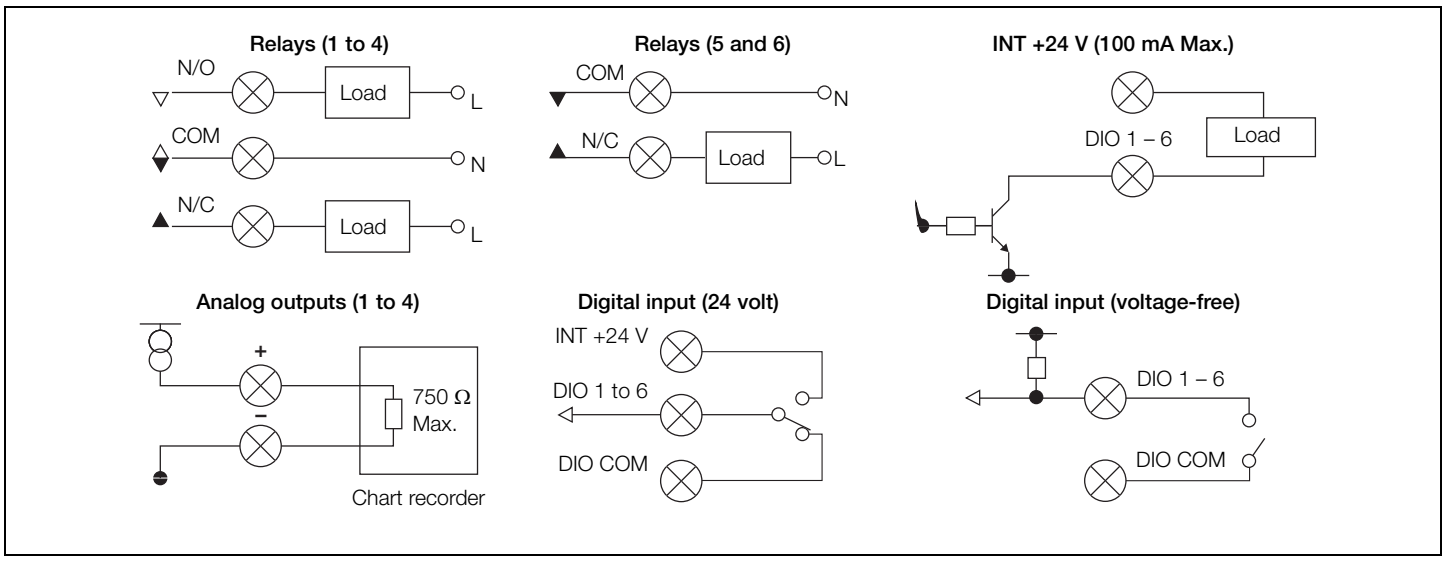


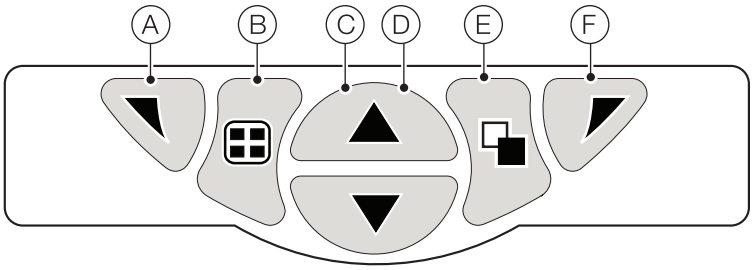

*Fig. 7 Digital I/O, relays and analog output connections*

# 4 Transmitter keys, operation modes and operator menus

### Front panel keys

The transmitter is operated using the keys on the front panel. These enable local navigation and selection of software options on all displays, acknowledgement and data logging and monitoring. Prompts associated with active keys are displayed on each screen. *Diagnostic* and *display icon descriptions* are included in this document.

Key functions are described in the following table:




| Key | Function | Description |
|---|---|---|
| Ⓐ | Navigation key – left and *Operator Level* access key | At menu level, selects the highlighted menu item, edit a selection or return to the previous menu level.<br>When *Operator* page is displayed, opens or closes the *Operator* menu. |
| Ⓑ | View key | Toggles the view between *Operator* pages, *Diagnostic View* and *Calibration Log* screens.<br>**Note**. Not enabled in *Configuration* mode. |
| Ⓒ | Up key | Used to navigate up menu lists, highlight menu items and increase displayed values. |
| Ⓓ | Down key | Used to navigate down menu lists, highlight menu items and decrease displayed values. |
| Ⓔ | Group key | Toggles between:<br>■ *Operator* pages (1 to 5) when an *Operator* page is selected at the *Group* key.<br>■ *View* screens (*Alarms, Outputs, Signals, Chart* and *Diagnostic*) when the *Diagnostic View* screen is selected at the *Group* key.<br>■ *Log* screens (*Alarm, Audit, Diagnostic and Calibration*) when the *Calibration Log* screen is selected at the Group key.<br>**Note**. Not enabled in *Configuration* mode. |
| Ⓕ | Navigation key – right and *Cal* shortcut key | At menu level, selects the highlighted menu item, operation button or edits a selection.<br>At *Operator* page level, used as a shortcut key to access the *Calibrate* level. |

*Table 1 Front panel key functions / descriptions*

# 5 Password security and levels of access

## Setting passwords

Passwords can be set to enable secure access at 2 levels: *Calibrate* and *Advanced*. Passwords are entered at the *Enter Password* screen (accessed via the *Access Level*). The *Service* level is password protected at the factory and reserved for factory use only.

Passwords can contain up to 6 characters and are set, changed or restored to their default settings at the *Device Setup / Security Setup* parameter.

**Note.** When the transmitter is powered-up for the first time, the *Calibrate* and *Advanced* levels are not password protected. Protected access to these levels must be allocated as required.

## Access Level

The *Access Level* is entered via the *Operator* menu / *Enter Configuration* menu option:

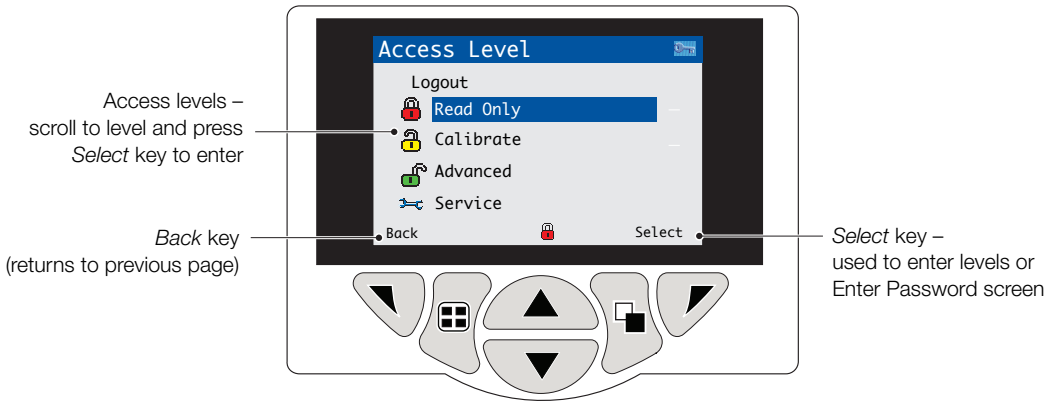



*Fig. 8 Access Level*

| Level | Access |
|---|---|
| Logout | Displayed after *Calibrate* or *Advanced* level are accessed. Logs out of current level – if set, a password must be entered to access these levels again after selecting *Logout*. |
| Read Only | View all parameters in read-only mode. |
| Calibrate | Enables access and adjustment of *Calibrate* parameters – refer to Step (6) for calibration details. |
| Advanced | Enables configuration access to all parameters. |
| Service level | Reserved for authorized service personnel only. |


*Fig. 9 Enter Password screen*

# 6 Calibrating the analyzer

Quick calibrations are initiated via the *CAL prompt displayed on Operator pages. Scheduled calibrations and other calibration routines must run from the Calibrate level* menus (accessed only via the *Advanced* access level – see Step 7).

**Caution.**

- Do not calibrate the analyzer until the wet-section and transmitter are installed and ready for operation.
- Allow at least 1 hour for sodium / hydrazine sensors to stabilize before running a calibration.

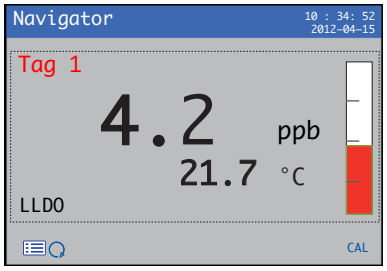
## Calibrating for the first time

Quick calibration routines (low level dissolved oxygen, hydrazine, sodium) differ only in the calibration type that is performed:

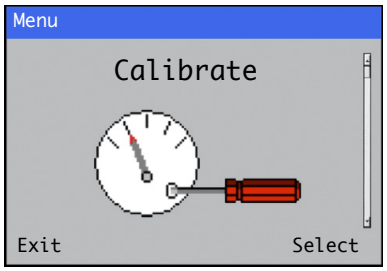
- LLDO = air cal.
- hydrazine = high cal.
- sodium = two-point cal.

To perform a quick calibration from an *Operator* page:

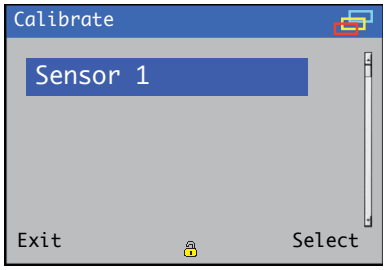
1. Press the key:




The *Calibrate* page is displayed:

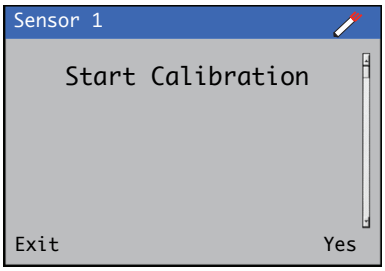



2. Press the key – the *Calibrate / Sensor 1 (2, 3, 4)* page is displayed with all available wet-sections shown:

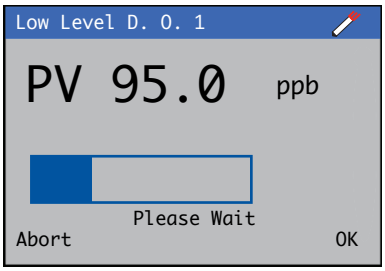



Use the / keys to select the wet-section to be calibrated.

3. Press the key – the *Sensor 1 (2, 3 or 4) / Start Calibration* page is displayed:

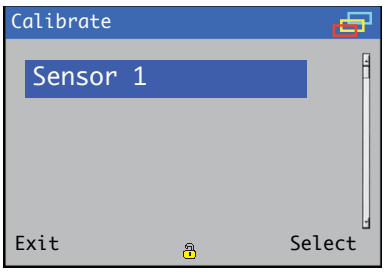



4. Press the key – the *Calibration* page is displayed with a bar graph indicating calibration progress:

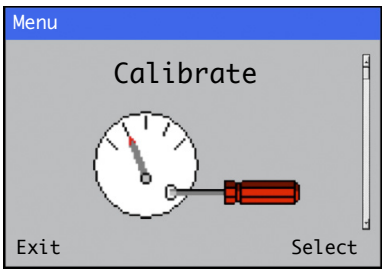



5. To exit the *Calibration* page, press the key. (Calibration continues and calibration progress can be monitored from the *Calibration View*).

The *Calibrate / Sensor 1 (2, 3, 4)* page is displayed.




6. Press the key – the *Calibrate* page is displayed:




7. Press the key to return to the *Operator* page.

# 7 Configuration level menus

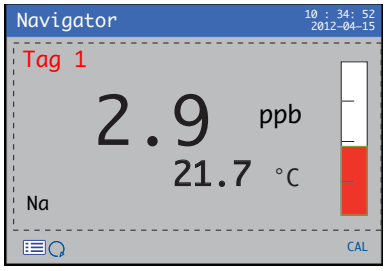
## Accessing Configuration level menus

Wet-section configuration(s) and parameter value settings are made at the *Configuration* level menus – see the associated wet-section Operating Instructions for menu options:

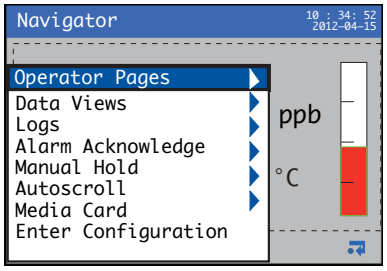
- Sodium wet-section – OI/AS0550-EN
- Hydrazine wet-section – OI/AHM550-EN
- Low level dissolved oxygen wet-section – OI/ADS550-EN

To enter *Configuration Level* menus:

1. Press the key (below the icon):

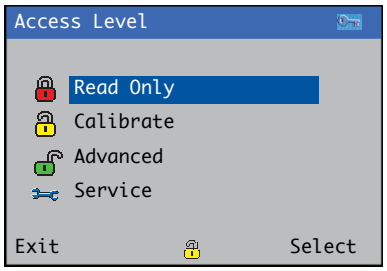



   The *Operator* menus are displayed:




2. Press the key to select the *Enter Configuration* menu and press the key (below the icon).

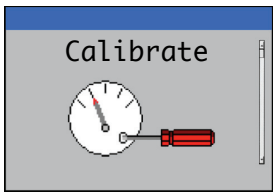
   The *Access Level* page is displayed:



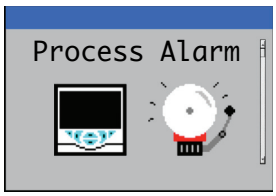

3. Use the key to scroll to the Advanced access level and press the key (below the *Select* prompt) to enter the top level *Configuration* menus.

   Use the / keys to scroll between top level menus and press the key (below the *Select* prompt on each top level menu) to enter that level.

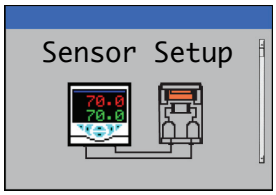
## Configuration level menus overview



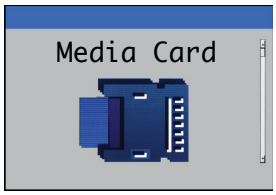

Calibrates the selected wet-section



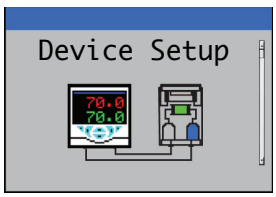

Configures up to 8 (independent) process alarms



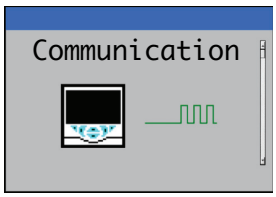

Sets units / ranges / filters / enables – disables flowmeters (if fitted)



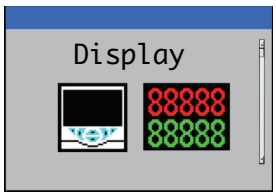

Sets card status / selects process data for logging / enters file configuration selection



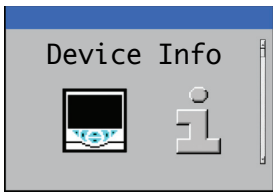

Set tags / temperature units / password (security) access



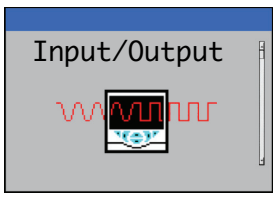

Enters (Ethernet) communication settings / email details




Use to set display language /operator templates / data views




Displays read-only factory- set transmitter / wet-section details.




Configures analog outputs / digital I/O

# Diagnostic messages

The transmitter is programmed to display diagnostic messages that provide information on servicing requirements and any other conditions that develop during operation.

All diagnostic messages displayed on the transmitter are added to the transmitter's *Audit Log*.

The tables below show icon types, diagnostic messages and possible causes / suggested remedial action.

**Note.**

- When a diagnostic condition is detected, the associated NAMUR icon, plus the highest priority diagnostic message, is displayed in the Status Bar when the transmitter is in Operator View mode
- If the status bar displays a diagnostic message, press the key to see all diagnostic messages.

| Diagnostic Icon | NAMUR Status |
|---|---|
|  | Failure |
|  | Check function |
|  | Out of specification |
|  | Maintenance required |

The diagnostic icons in the following tables conform to NAMUR 107:

| Icon | Diagnostic message | Possible cause and suggested action |
|---|---|---|
|  | **ADC Failure (S1, S2, S3, S4)** | Wet-section failure (temporary or permanent failure of analog to digital converter for wet-section (1, 2, 3, 4).<br>Cycle power to the transmitter.<br>If problem persists replace electronics inside wet-section, contact local service organization. |
|  | **Excessive Power** | The wet-section is drawing more current than available.<br>The power being drawn from the transmitter exceeds the maximum permitted level.<br>Check the wiring to all wet-sections connected for possible wiring problems.<br>Check any digital outputs powered from the +24V out terminal.<br>Ensure the limits are not exceeded. |
|  | **Int Comms Error** | Communication to wet-section failure<br>(communication to one or all the wet-sections has failed during cyclic reads).<br>Check wiring between transmitter and wet-sections. |
|  | **No Samples** | **Sodium multi-stream only**<br>No samples available (at wet-section).<br>If a multiple wet-section setup, the transmitter cannot detect any samples flowing into the wet-section. |
|  | **No Sample (S1, S2, S3, S4)** | No sample available (at wet-section).<br>**Sodium / Hydrazine**<br>Check sample flow rates are >50 ml/min.<br>**Low level dissolved oxygen**<br>Check sample flow rates are >100 ml/min. |
|  | **NV Error Comm Bd** | NV error – comms. board (CRC / Comms.). (Failure of non-volatile memory on communications board or permanent corruption of its data).<br>Cycle power to the transmitter.<br>If problem persists check all configuration parameters and correct any errors.<br>If problem still persists contact local service organization. |
|  | **NV Error Main Bd** | NV error – main board (CRC / Comms.). (Failure of non-volatile memory on main board or permanent corruption of its data.).<br>Cycle power to the transmitter.<br>If problem persists check all configuration parameters and correct any errors.<br>If problem still persists contact local service organization. |
|  | **NV Error Proc Bd** | NV error – processor board (CRC / Comms.). (Failure of non-volatile memory on processor / display board or permanent corruption of its data.).<br>Cycle power to the transmitter.<br>If problem persists check all configuration parameters and correct any errors.<br>If problem still persists contact local service organization |

*Table 1 Transmitter diagnostic messages (Sheet 1 of 3)*

| Icon | Diagnostic message | Possible cause and suggested action |
|---|---|---|
|  | **NV Error (S1, S2, S3, S4)** | Failure of wet-section (1, 2, 3, 4) non-volatile memory or permanent corruption of its data).<br>Cycle power to the transmitter.<br>If problem persists check all configuration parameters for all wet-sections and correct any errors.<br>If problem still persists contact local service organization. |
|  | **NV Error SW Key 1** | NV error – software key 1 (CRC / Comms) Failure of non-volatile memory on software key 1 board or permanent corruption of its data.<br>Cycle power to the device.<br>If problem persists check all configuration parameters and correct any errors.<br>If problem still persists contact local service organization. |
|  | **Temp Failure (S1, S2, S3, S4)** | Temperature sensor failure for wet-section1 (2, 3, 4).<br>The temperature compensator or associated connections are either open-circuit or short-circuit – check wiring / temperature compensator connections to the PCB. |
|  | **Calibrating (S1, S2, S3, S4)** | Calibrating. / Displayed during calibration of wet-section (1, 2, 3, 4).<br>On a multiple wet-section setup, this inhibits other wet-sections being calibrated. |
|  | **In Hold Mode (S1, S2, S3, S4)** | Wet-section (1, 2, 3, 4) in manual hold mode via front panel.<br>Analog outputs and alarms are held. To exit manual hold press the ↰ key, scroll to *Manual Hold* and select the appropriate wet-section(s). |
|  | **Recovery (S1, S2, S3, S4)** | Wet-section(s) performing a recovery stage after calibration, regeneration (sodium only) or after exiting *Man. Valve Control*.<br>During the recovery period, outputs and alarms are held if *Hold Outputs* is enabled. |
|  | **Regeneration** | **Sodium only**<br>A regeneration routine is being run.<br>Refer to the sodium wet-section Operating instructions (OI/ASO550-EN) for details of this routine. |
|  | **Simulation On** | The analyzer is operating in *Simulation* mode. |
|  | **Cal. Failed (S1, S2, S3, S4)** | Last wet-section calibration failed.<br>**Sodium**<br>Check reagent is entraining (bubbles at end of entrainment tube, check reagent is fresh).<br>Check the calibration solution (sodium / hydrazine) – refer to the sodium wet-section Operating instructions (OI/ASO550-EN).<br>**Hydrazine**<br>Check the calibration solution – refer to the hydrazine wet-section Operating instructions (OI/AHMO550-EN).<br>**Low level dissolved oxygen**<br>Refer to the low level dissolved oxygen wet-section Operating instructions (OI/ADSO550-EN). |
|  | **Flow Sample (S1, S2, S3, S4)**<br>*Displayed only if flowmeter is fitted* | **Low level dissolved oxygen**<br>Sample flow rate is less than 100 ml/min (6.10 cu in./min).<br>Increase the sample flow to the wet-section.<br>**Sodium / Hydrazine**<br>Sample flow rate is less than 50 ml/min. (3.05 cu in./min.).<br>Increase the sample flow to the wet-section. |

*Table 1 Transmitter diagnostic messages (Sheet 2 of 3)*

| Icon | Diagnostic message | Possible cause and suggested action |
|---|---|---|
|  | **Media Card Full** | Memory card is full, no more data can be saved to the card.<br>Replace memory card. |
|  | **Missed Cal.**<br>**(S1, S2, S3, S4)** | Missed last schedule calibration. |
|  | **PV Range**<br>**(S1, S2, S3, S4)** | Process value (PV) measured is out of the specified range of the wet-section.<br>Low level dissolved oxygen 0 to 20,000 ppb, sodium 0 to 10,000 and hydrazine 0 to 1000 ppb. |
|  | **Sample Cold**<br>**(S1, S2, S3, S4)** | Sample solution temperature lower than 5 °C (41 °F).<br>Increase the temperature of the sample. |
|  | **Sample Hot**<br>**(S1, S2, S3, S4)** | Sample solution temperature higher than 55 °C (131 °F).<br>**Low level dissolved oxygen**<br>Reduce the temperature of the sample.<br>**Note**. If the sample temperature is above 55 °C (131 °F), the calibration valve is energized to divert the hot sample directly to drain, as high temperatures can damage the sensor. The calibration valve de-energizes after 30 minutes. During this 30-minute period the *Concentration* and *Temperature* readings in the *Signals View* are held.<br>**Sodium / Hydrazine**<br>Reduce the temperature of the sample. |
|  | **Media Near Full** | Memory card is more than 90% full.<br>Replace memory card. |
|  | **No Low Cal**<br>**(S1, S2, S3, S4)** | Sodium only<br>Out of low calibration solution.<br>Replace low calibration solution or start a 2-point calibration.<br>**Note**. Displayed only if *Solution Detection* is enabled. |
|  | **No High Cal**<br>**(S1, S2, S3, S4)** | Sodium / Hydrazine<br>Out of high calibration solution.<br>Replace high calibration solution or start a calibration.<br>**Note**. Displayed only if *Solution Detection* is enabled. |
|  | **No Regen. Sol**<br>**(S1, S2, S3, S4)** | Sodium only<br>Out of regeneration solution.<br>Replenish solution.<br>**Note**. Displayed only if regeneration hardware is fitted. |
|  | **No Sample**<br>**(S1, S2, S3, S4)** | **Sodium multi-stream only**<br>No sample available at wet-section.<br>Check sample flow rates are >50 ml/min. |

*Table 1 Transmitter diagnostic messages (Sheet 3 of 3)*

# Display icons

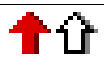
## Alarm, hold and calibration icons

| | |
|---|---|
|  | *Alarm* – indicates a user-defined alarm condition (20-character) and flashes intermittently with an associated NAMUR diagnostic icon. |
|  | Hold – indicates that alarms / analog outputs are in a manual hold state. |
|  | Calibrating – indicates that a calibration is in progress. |

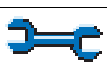
## Title bar icons

| | |
|---|---|
|  | *Log* mode – indicates that one of the *View* pages is currently displayed (*Calibration, Alarm, Audit or Diagnostic*). |
|  | *View* mode – indicates that one of the *View* pages is currently displayed (*Diagnostics, Alarms, Outputs, Signals* or *Chart*). |
|  | Media on-line: 0 to <20 % full. |
|  | Media on-line: 20 to <40 % full. |
|  | Media on-line: 40 to <60 % full. |
|  | Media on-line: 60 to <80 % full. |
|  | Media on-line: 80 to <100 % full. |
|  | Media on-line: full (icon toggles when full) |
|  | Media off-line: 0 to <20 % full. |
|  | Media off-line: 20 to <40 % full. |
|  | Media off-line: 40 to <60 % full. |
|  | Media off-line: 60 to <80 % full. |
|  | Media off-line: 80 to <100 % full. |
|  | Media off-line: not inserted (not logging). |
|  | Media off-line: not inserted, logging active – icon display toggles with *Media off-line: not inserted (not logging) icon*. |

## Log icons

| | |
|---|---|
|  | Source: wet-section 1 (red)<br>S1 / T1 = sensor / temperature for wet-section 1 |
|  | Source wet-section 2 (green)<br>S2 / T2 = sensor / temperature for wet-section 2 |
|  | Source wet-section 3 (blue)<br>S3 / T3 = sensor / temperature for wet-section 3 |
|  | Source wet-section 4 (violet)<br>S4 / T4 = sensor / temperature for wet-section 4 |
|  | Power failed / power failed |
|  | Configuration changed |
|  | System Error |
|  | File created / deleted |
|  | Media inserted / removed |
|  | Media on-line / off-line |
|  | Media full |
|  | Date / time or daylight saving start / end changed |
|  | High process alarm active / inactive |
|  | Low process alarm – active / inactive |
|  | High latch alarm – active / inactive |
|  | Low latch alarm – active / inactive |
|  | Alarm acknowledged |

## Status bar icons

| | |
|---|---|
|  | *Operator* menu – displays the Operator menu when the ◥ key is pressed. |
|  | *Autoscroll* – selected from the Operator menu (displayed when *Autoscroll* enabled). Indicates Operator pages are displayed sequentially. Disabled if 1 Operator page only is configured for display. |
|  | *Calibration* – shortcut access to the Calibration page when the ◤ key is pressed. |
|  | *Enter* – selects the highlighted option from the *Operator* menus when the ◤ key is pressed. |
|  | *Service Level* – indicates that alarms and analog outputs are held. |
|  | *Advanced Level* – indicates that *Advanced Level* parameters are enabled for the current user. |
|  | *Calibrate Level* – indicates that the *Calibration Level* parameters are enabled for the current user. |
|  | *Read Only Level* – indicates that the transmitter is in *Read Only mode.* All parameters are locked and in cannot be configured. |

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3KXA877540R4401

OI/AWT540-EN Rev. C 05.2018