

StackFlowMaster FPD580 interface unit B / C / D

Stack gas metering systems

Measurement made easy



Introduction

This publication provides commissioning instructions for the StackFlowMaster FPD585 interface unit B, C and D. The interface unit is used in conjunction with a TORBAR sensor.

For more information

Further publications for the StackFlowMaster stack gas monitoring systems are available for free download from www.abb.com (see links and reference numbers below) or by scanning this code:



search for or click on:

StackFlowMaster FPD581, FPD583 and FPD585 Operating instructions	OI/FPD580-EN
StackFlowMaster FPD580 TORBAR probe Commissioning instructions	CI/FPD580/A-EN
2600T Series Pressure Transmitters Operating instructions	IM/267C/269C

Health & Safety

Information in this manual is intended only to assist our customers in the efficient operation of our equipment. Use of this manual for any other purpose is specifically prohibited and its contents are not to be reproduced in full or part without prior approval of the Technical Publications Department.

Health and safety

To ensure that our products are safe and without risk to health, the following points must be noted:

- The relevant sections of these instructions must be read carefully before proceeding.
- Warning labels on containers and packages must be observed.
- Installation, operation, maintenance and servicing must only be carried out by suitably trained personnel and in accordance with the information given.
- 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) may be obtained from the Company address on the back cover, 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.

If the equipment is used in a manner NOT specified by the Company, the protection provided by the equipment may be impaired.

Symbols

One or more of the following symbols may appear on the equipment labelling:

	Protective earth (ground) terminal.
	Functional earth (ground) terminal.
	Direct current supply only.
	Alternating current supply only.
	Both direct and alternating current supply.
	The equipment is protected through double insulation.
	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.
	This symbol indicates that the marked item can be hot and should not be touched without care.
	This symbol indicates the presence of devices sensitive to electrostatic discharge and indicates that care must be taken to prevent damage to them.
	This symbol indicates the need for protective eye wear.
	This symbol indicates the need for protective hand wear.
	Recycle separately from general waste under the WEEE directive.

Manual handling

Caution. Take care when unpacking and installing a StackFlowMaster – use appropriate manual handling techniques.

- The FPD585 enclosure weighs up to 40 kg (88 lb.) and may require a two man lift.

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.

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

1 Dimensions

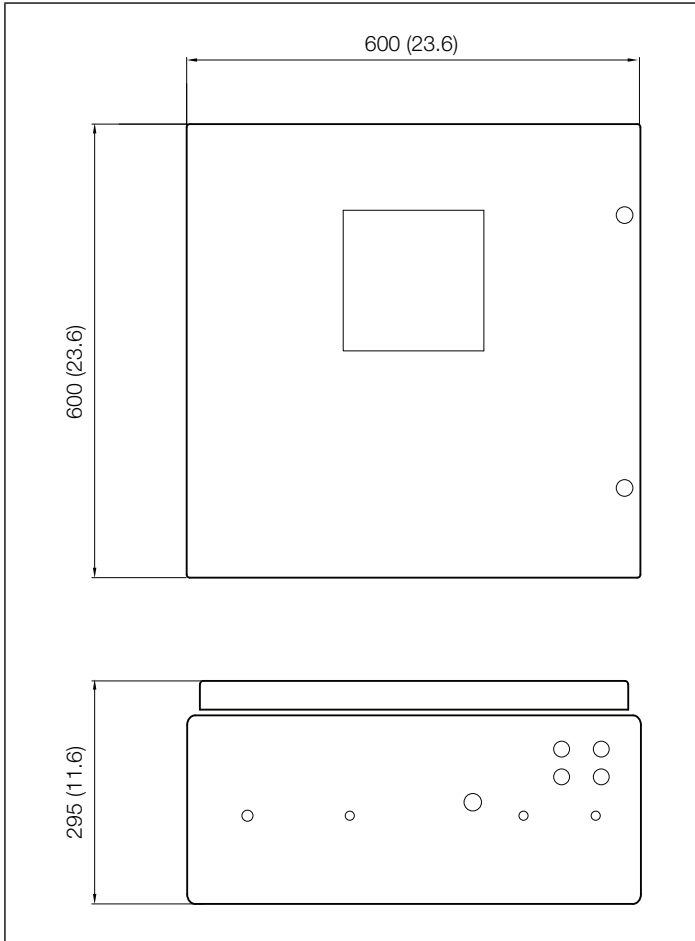


Fig. 1 FPD585 automatic interface unit dimensions

2 Installation

General

When choosing a location for the interface unit enclosure, ensure the DP transmitter inside the enclosure is above the level of the TORBAR head.

It must be far enough above the TORBAR to enable the pneumatic tubing (see Operating instructions OI/FPD580-EN) to slope down towards the TORBAR connections at an incline of at least 25 mm per 300 mm (1 in. per 12 in.).

Mounting

1. Referring to Fig. 2, fit the supplied mounting brackets to the enclosure as shown.
2. Using M8 fixings, attach the enclosure to a wall or panel that is rigid and free from excessive vibration.

Note. Mount the housing with the cable glands at the bottom to avoid fluid collection and entry if the cable glands are loosened.

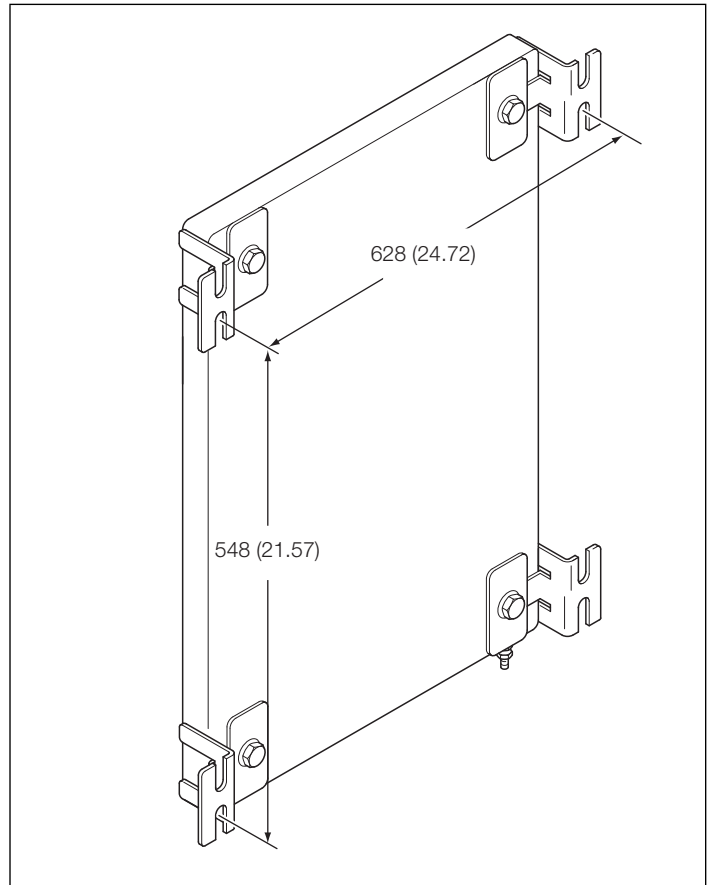


Fig. 2 Fitting enclosure mounting brackets

3 Electrical connections

Make connections to the DIN rail terminal numbers as shown in Fig. 3.

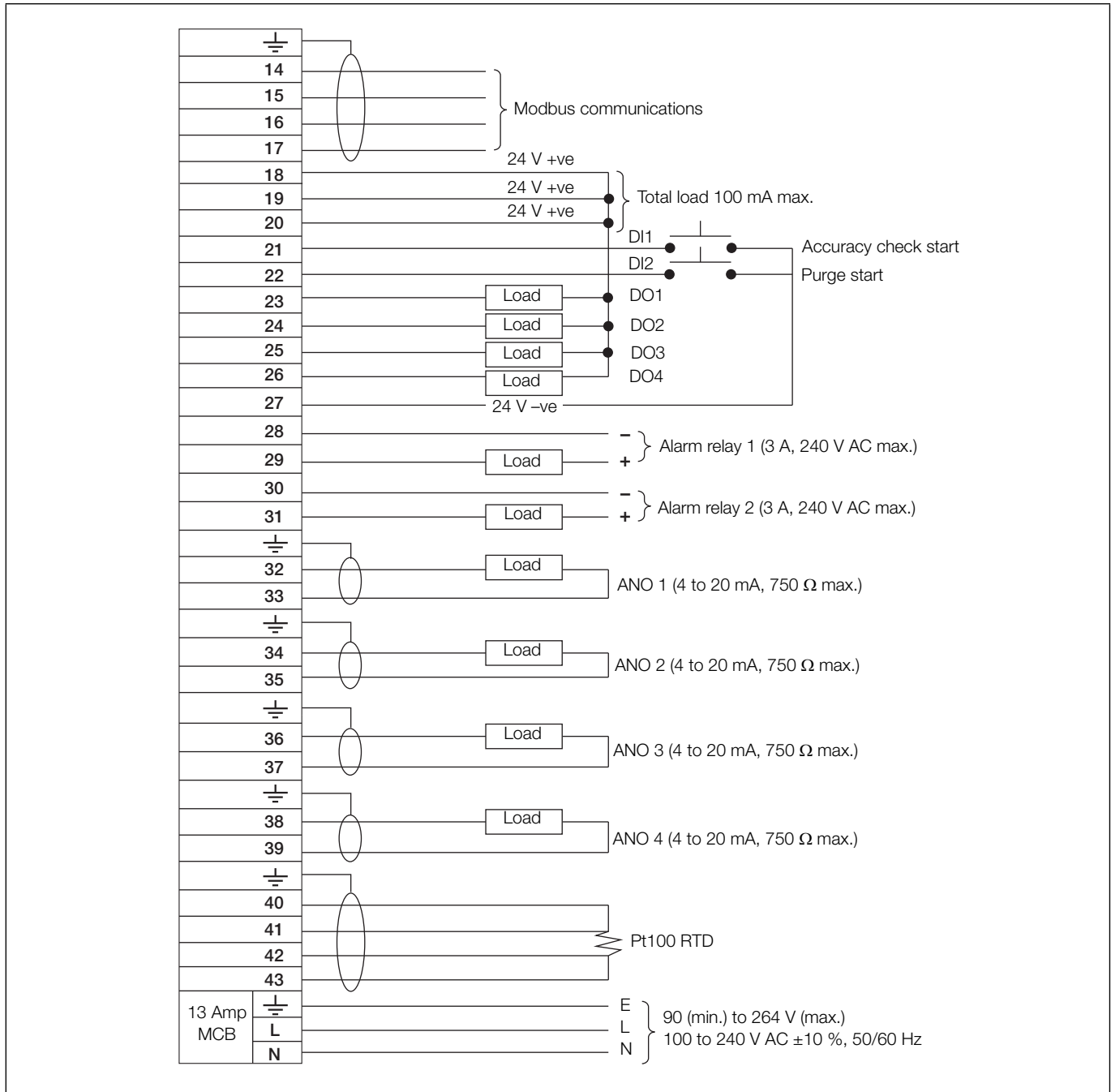


Fig. 3 FPD583 DIN rail terminal connections

Make digital I/O, relay and analog output connections as shown in Fig. 4:

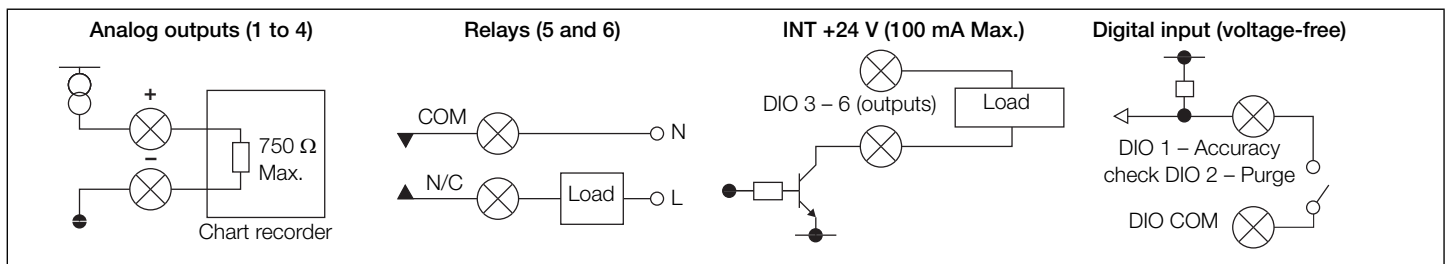


Fig. 4 Digital I/O, relay and analog output connections

4 Pneumatic connections

FPD585 – interface units B, C and D

The DP transmitter is supplied fitted inside the enclosure. Referring to Table. 2 and Fig. 5, connect the ports on the underside of the enclosure to the TORBAR, observing the following instructions:

- Ensure the DP transmitter is above the level of the TORBAR head and that the tubing slopes down towards the TORBAR connections at an incline of at least 25 mm per 300 mm (1 in. per 12 in.).
- Use minimum 6 mm (0.25 in.) ID piping suitable for the pressure, temperature and process.
- Keep the tubing as short as possible but ensure the differential pressure measuring transmitter can operate within its specified temperature limits.
- Support the tubing over its entire length and isolate it from sources of vibration or damage.
- Route the tubing from the high and low pressure connections as close together as possible to maintain equal temperatures.
- Do not route the tubing in areas where the ambient temperature may fluctuate.

Connection	Size	Description	FPD585 Interface Unit B	FPD585 Interface Unit B with pressure regulator	FPD585 Interface Unit C	FPD585 Interface Unit C with pressure regulator	FPD585 Interface Unit D	
(A)	1/4 in. BSP	Calibration air inlet	User to provide accurate pressure supply to check the DP transmitter span	User to provide filtered air supply	User to provide accurate pressure supply to check the DP transmitter span	User to provide filtered air supply	N/A – port blocked	
(B)	1/2 in. BSP	TORBAR high pressure	Connect to high pressure side of TORBAR					
(C)	1/2 in. BSP	Purge air supply	N/A – port blocked		User to provide filtered air supply – max. pressure 6 bar (87 psi)			
(D)	1/4 in. BSP	Transmitter exhaust	No connection necessary				N/A – port blocked	
(E)	1/2 in. BSP	TORBAR low pressure	Connect to low pressure side of TORBAR					

Table. 2 Pneumatic connections – see Fig. 5

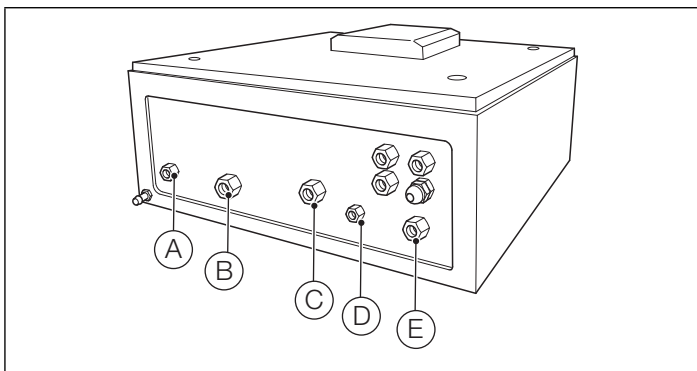


Fig. 5 Interface unit B (without auto span check) – pneumatic connections

5 Operation

Front panel keys

FPD585 Interface Units B, C and D are operated using the front panel keys on the control unit – see Fig. 6.

These keys enable local navigation and selection of all software options on all displays. Prompts associated with active keys are displayed on each screen.

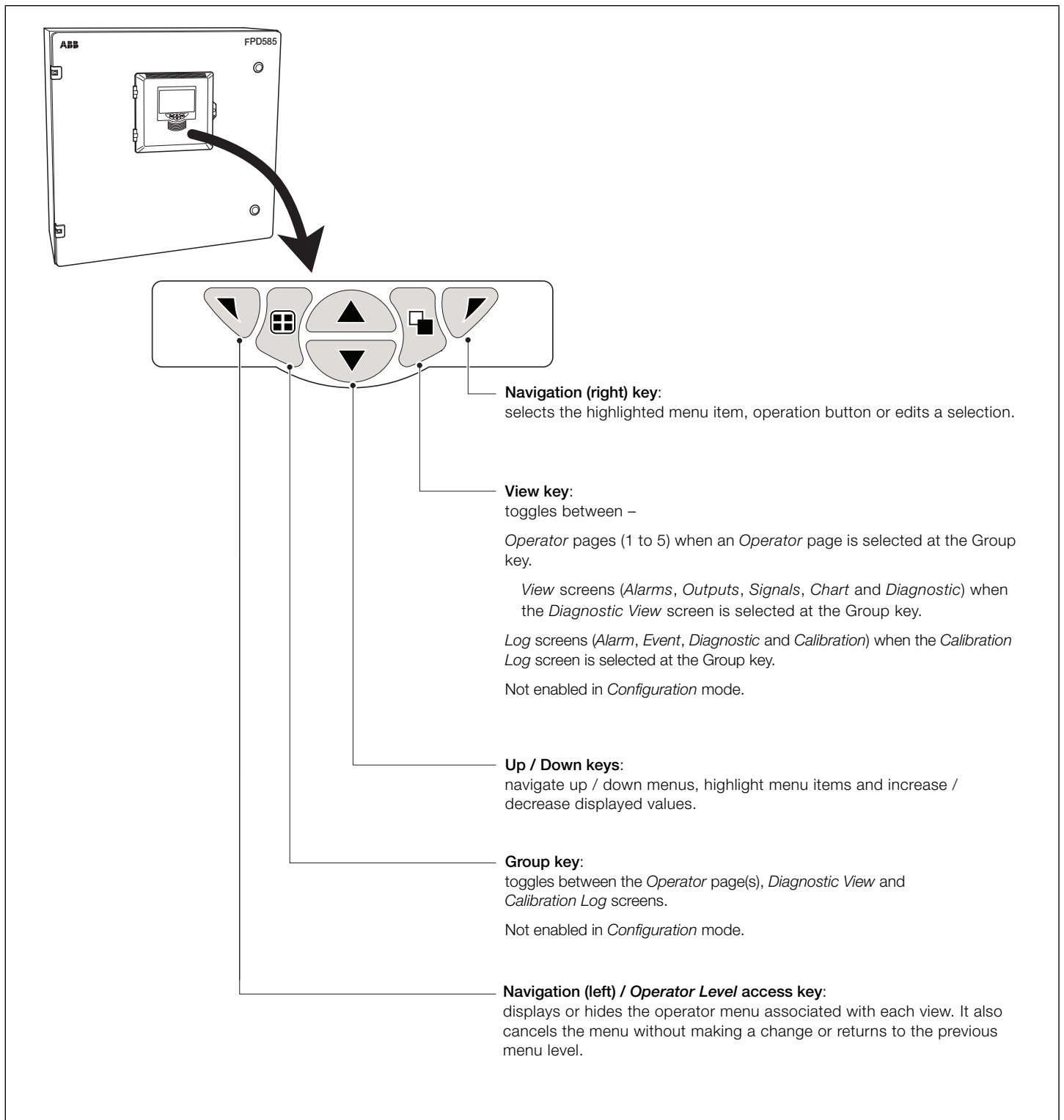


Fig. 6 Front panel keys

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