MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

PP836

FUNCTION KEY OPERATOR PANEL

Used with the applicable Panel 800 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Panel 800 manufacturer technical reference

Version	Description	User documentation
5.1	Release of firmware version 4.0.	3BSE043449R401 (MA00795B)
5.1/3	Release of PP836A	3BSE043449R501

Warning, Caution, Information, and Tip Icons

This publication includes **Warning**, **Caution**, and **Information** where appropriate to point out safety related or other important information. It also includes **Tip** to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:



Electrical warning icon indicates the presence of a hazard which could result in *electrical shock.*



Warning icon indicates the presence of a hazard which could result in *personal injury.*



Caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in *corruption of software or damage to equipment/property.*



Information icon alerts the reader to pertinent facts and conditions.



Tip icon indicates advice on, for example, how to design your project or how to use a certain function

Although **Warning** hazards are related to personal injury, and **Caution** hazards are associated with equipment or property damage, it should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to personal injury or death. Therefore, **fully comply** with all **Warning** and **Caution** notices.

Section 2 Safety Precautions

Both the installer and the owner and/or operator of the operator panel must read and understand this installation manual.

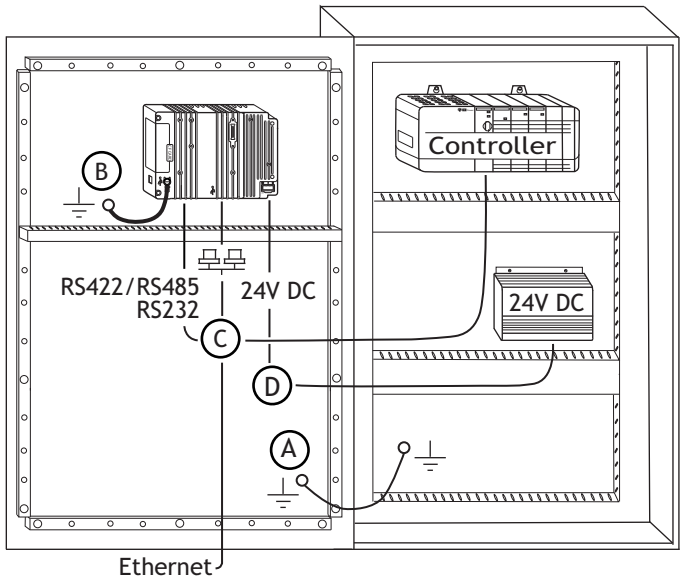
UL and cUL Installation

- This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D OR non-hazardous locations only. [Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation].
- Maximum ambient temperature 40 °C when mounted horizontal or 50 °C when mounted vertical.
- WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
- For Canada also AVERTISSEMENT – RISQUE D'EXPLOSION – AVANT DE DECONNECTER L'EQUIPEMENT, COUPER LE COURANT OUS'ASSURER QUE L'EMPLACEMENT EST DESIGNE NON DANGEREUX.
- WARNING – EXPLOSION HAZARD - Substitution of components may impair suitability for Class I, Division 2.
- For Canada also AVERTISSEMENT – RISQUE D'EXPLOSION – LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2.
- WARNING – EXPLOSION HAZARD – only UL and cUL approved expansion units are allowed to be connected to the port designated "EXPANSION". At the moment there are no such units evaluated or allowed.

- WARNING – EXPLOSION HAZARD - Do not replace expansion unit unless power has been switched off or the area is known to be non-hazardous.
- This product contains battery, this must only be changed in an area known to be non-hazardous. Permitted types are shown in the Section 4, Technical Data.
- For use on a flat surface of a type 4X enclosure indoor use only.
- To make wiring connections to the power supply connector, use an AWG 28-12 cable and a tightening torque of min. 0.5 Nm.

General

- Read the safety precautions carefully.
- Check the delivery for transportation damage. If damage is found, notify the supplier as soon as possible.
- Do not use the operator panel in an environment with high explosive hazards.
- The supplier is not responsible for modified, altered or reconstructed equipment.
- Use only parts and accessories manufactured according to specifications of the supplier.
- Read the installation and operating instructions carefully before installing, using or repairing the operator panel.
- Never allow fluids, metal filings or wiring debris to enter any openings in the operator panel. This may cause fire or electrical shock.
- Only qualified personnel may operate the operator panel.
- Storing the operator panel where the temperature is lower/higher than recommended in this manual can cause the LCD display liquid to congeal/become isotopic.
- The LCD display liquid contains a powerful irritant. In case of skin contact, wash immediately with plenty of water. In case of eye contact, hold the eye open, flush with plenty of water and get medical attention.



5. Carefully remove the laminated film over the operator panel display, to avoid static electricity that could damage the panel.

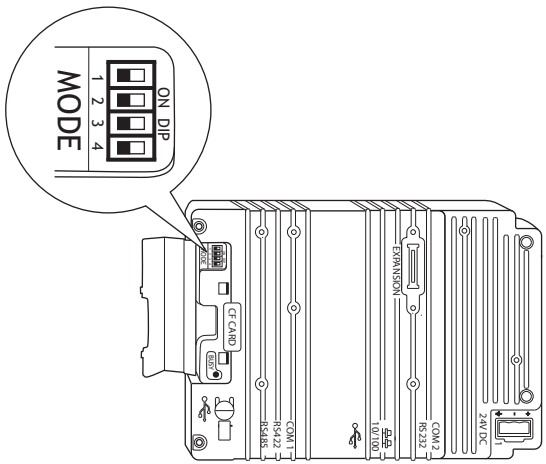
Mode Switches

All mode switches must be in OFF position during operator panel use.

The mode switches should not be touched unless by qualified personnel.

The operator panel has four mode switches (DIP switches) located on the back of the operator panel.

The drawing below shows where the switches are located.



Enter the desired mode in the following steps:

1. Disconnect power from the operator panel.
2. Set the mode switches.
3. Reconnect power to the operator panel.

Section 4 Technical Data

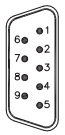
Parameter	PP836	PP836A
Front panel, W x H x D	285 x 177 x 6 mm	
Mounting depth	56 mm (156 mm including clearance)	
Front panel seal	IP 66	
Rear panel seal	IP 20	
Keyboard material	Membrane switch keyboard with metal domes. Overlay film of Autotex F157 * with print on reverse side. 1 million operations.	
Reverse side material	Powder-coated aluminum	
Weight	1.4 kg	
Serial port RS422/RS485	25-pin D-sub contact, chassis-mounted female with standard locking screws 4-40 UNC.	
Serial port RS232C	9-pin D-sub contact, male with standard locking screws 4-40 UNC.	
Ethernet	Shielded RJ 45	
USB	Host type A (USB 1.1), max output current 500mA Device type B (USB 1.1)	
CF-slot	Compact flash, type I and II	
Flash memory for application	12 MB (incl. fonts)	
Real time clock	±20 PPM + error because of ambient temperature and supply voltage. Total maximum error: 1 min/month at 25 °C Temperature coefficient: -0.034±0.006 ppm/°C^2	

Parameter	PP836	PP836A
Real time clock battery	CR2450 (UL and cUL: Sanyo or Panasonic) Minimum lifetime: 3 years	Rechargeable battery.
Power consumption at rated voltage	Normal: 0.4 A Maximum: 0.9 A	
Display	TFT-LCD. 640 x 480 pixels, 64K color. CCFL backlight lifetime at the ambient temperature of +25 °C: >50,000 h.	TFT-LCD. 640 x 480 pixels, 64K colors. LED backlight lifetime at the ambient temperature of +25 °C: >25,000 h.
Active area of display, W x H	131.5 x 98.6 mm	
Fuse	Internal DC fuse, 3.15 AT, 5 x 20 mm	
Power supply	+24V DC (20 - 30V DC). 3-pin jack connection block. CE: The power supply must conform with the requirements according to IEC 60950 and IEC 61558-2-4. UL and cUL: The power supply must conform with the requirements for class II power supplies.	
Ambient temperature	Vertical installation: 0 ° to +50 °C Horizontal installation: 0 ° to +40 °C	
Storage temperature	-20 ° to +70 °C	
Relative humidity	5 - 85 % non-condensed	
CE approvals	Noise tested according to EN61000-6-4 emission and EN61000-6-2 immunity.	
UL, cUL approvals (when procuct or packing is marked)	UL 1604 Class I, Div 2 / UL 508 / UL 50 4x indoor use only	UL 508 / UL 50 4x indoor use only
DNV	Yes	

Parameter	PP836	PP836A
NEMA	4x indoor use only	

* See Section 5, Chemical Resistance for more information.

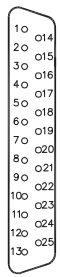
RS-232



D–sub
9–pin Male

Pin no	Signal	Signal Name	Signal direction
1	DCD	Data Carrier Detect	Input
2	RD	Receive Data	Input
3	TD	Transmit Data	Output
4	DTR	Data Terminal Ready	Output
5	SG	Signal Ground	–
6	DSR	Data Set Ready	Input
7	RTS	Request To Send	Output
8	CTS	Clear To Send	Input
9	RI	Ring Indicator	Input

RS-422/485



D–sub
25–pin Female

		RS-422		RS-485	
Pin no	Signal	Signal direction	Signal	Signal direction
2	TxD+	Output	Tx/Rx+	In/Output
15	TxD–	Output	Tx/Rx–	In/Output
3	RxD+	Input		
16	RxD–	Input		
4	RTS+	Output		
17	RTS–	Output		
5	CTS+	Input		
18	CTS–	Input		
20	1)			
21	1)			
6	Do not use		2) Bus termination	4) Connect to pin no.19 for bus–termination.
19	Do not use		3) Bus termination	See above
7,8	0V		0V	
14	+5V <100mA	Output	+5V <100mA	Output

1) Pin no 20 connected to pin no 21 internal in the terminal
2) Directly connected internaly to pin no. 2 (Tx/Rx+).
3) Connected to pin no. 15 (Tx/Rx–) internaly via a 120ohm 1/4W resistor.
4) NOTE! Only the first and the last unit on the bus should be terminated.

Figure 2. Part 2 of Drawing No. S-05005, Date 2004-10-27