

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

HIEE305120R0002 UNS0868A-P V2

EXTERNAL EXCITATION POWER SUPPLY

Used with the applicable UNITROL F excitation system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ABB Hardware Description 3BHS102402 E83

1 Overview

1.1 System components

Type	Ident-No.	Purpose	Characteristics
General boards			
SDCS-CON-2	3ADT220072R4	Control Board (i), rev. H and newer	UNF SW 41.222 and newer
SDCS-CON-2	3BHE004059R4	Control Board (i), rev. G	UNF SW 41.220 and .221
SDCS-POW-1	3ADT220090R3	Power Supply board (i) coat	Replaced through POW-4
SDCS-POW-4	3ADT315100 R1001	Power Supply board (i) coat	115 VAC / 230 VAC, DO8
UNS 0868a V1	HIEE305120R1	Power Supply Unit (e)	24 to 48 VDC
UNS 0868a V2	HIEE305120R2	Power Supply Unit (e)	110 to 250 VDC
UNS 0868b V1	3BHE013940R1	Power Supply Unit (e)	24 to 48 VDC
UNS 0868b V2	3BHE013940R2	Power Supply Unit (e)	110 to 250 VDC
UNS 0862	HIEE405179R1	AC Actual Value Measurement	3 x 100 to 120 VAC, 1 x 1 or 5 ADC
UNS 0863	HIEE305082R1	I/O Interface	16 DI 24 VDC, 18 Relay-DO /4AO/2AI
UNS 1860b V1	3BHB001336R1	Signal Processing Device (i)	fE =33 to 300 Hz
UNS 1860b V2	3BHB001336R2	Signal Processing Device (i)	fE =17 to 38 Hz
Power Interface boards			
SDCS-PIN-1x Set			
SDCS-PIN-11	3ADT306100R1	Power Interface Board (i)	220 to 500 VAC, 25 to 75 ADC
SDCS-PIN-12	3BSE005716R1	Power Interface Board (i)	600 VAC, 50 ADC
SDCS-PIN-20xB Set			
SDCS-PIN-205B	3ADT312500R1	Power Interface Board (i)	220 to 500 VAC, 100 to 1000 ADC
SDCS-PIN-206B	3ADT312500R2	Power Interface Board (i)	500 to 600 VAC, 110 to 450 ADC
SDCS-PIN-41	3BSE004939R1	Pulse Transformer Board (e)	Replaced through PIN-48
SDCS-PIN-48	3BSE004939R2	Pulse Transformer Board (e)	220 to 1000 VAC, 900 to 5150 ADC
SDCS-PIN-51	3BSE004940R1	Measuring Board (e)	220 to 1000 VAC, 900 to 5150 ADC
SDCS-PIN-52	3BSE011316R1	Measuring Board (e)	220 to 500 VAC, 900 to 5150 ADC
Communication boards			
SDCS-COM-5	3BSE006567R1	TC Link Communication Board(i)	(connected to X11)
UNS 0874	3BHB002651R1	Control Panel	Modbus
NMBA-01 V1.7	3ADT220066R5	Fieldbus Interface Modbus	
NPBA-12 V1.4	3ADT220112R5	Fieldbus Interface Profibus	
NMBP-01 V1.6	3ADT220074R4	FB interface Modbus Plus	
Optional boards			
UNS 0864b V1	HIEE405227R1	Diode Failure Monitoring (e)	fE =33 to 300 Hz
UNS 0864b V2	HIEE405227R2	Diode Failure Monitoring (e)	fE =17 to 38 Hz
UNS 0867a V1	HIEE405246R1	Extended I/O	16 DI, 19 DO
UNS 0867a V2	HIEE405246R2	Extended I/O	16 DI, 19 DO, 2 AI, 2 AO
UNS 0869a V2	3BHB001337R2	PSS Signal Transformer (e)	IEEE-PSS Type 2A
(i) internal and (e) external board for the converter module			

Tab. 1 Circuit board summary table

4 Power supply unit UNS 0868a, b

Features

- 240 VDC voltage power supply unit with variable input voltage:
 - Version 1: for 24 V / 48 VDC / 34 VAC input voltage
 - Version 2: for 110 V / 250 VDC / 170 VAC input voltage
- Monitoring of the DC and AC input voltages
- Galvanically isolated 24 VDC contact interrogation voltage (6, 8)
- Parallel connection of the 24 V output of 2 power supply units allowed
- "Stand-alone" device for assembly board installation
- Undervoltage lockout (b-version)

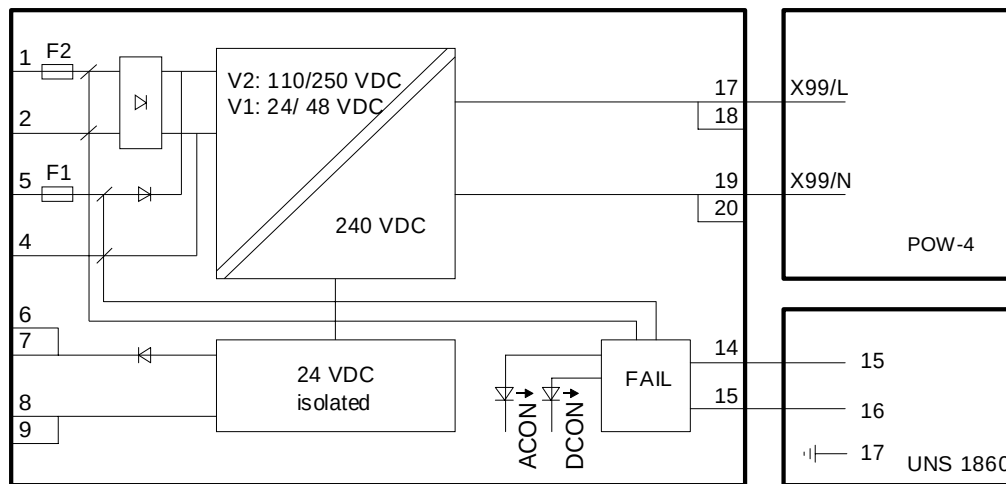


Fig. 9

Short description

The external power supply unit UNS 0868 provides the voltage supply to the POW-4 module integrated in the main UNITROL® F unit. The device is responsible for adapting the battery voltages present on the customer side to the DC input range of the POW-4 module.

In order to achieve a redundant voltage supply, in addition to the DC voltage at terminals 4 and 5, an AC voltage is also connected to terminals 1 and 2 on the power supply unit UNS 0868. The AC and DC current supplies are decoupled via diodes before the step-up transformer.

The device is available in the following two variants:

- V1: for 24 / 48 VDC and 34 VAC nominal input voltage
- V2: for 110 / 250 VDC and 170 VAC nominal input voltage.

The input voltages (1, 2 and 4, 5) are monitored. A failure of the AC voltage is clocked with 1 Hz and a failure of the DC voltage is indicated by a continuous FAIL signal at output 14, 15. The presence of the corresponding output voltages is indicated by means of the AC ON and DC ON LED's. An external capacitor on the outputs 18 and 20 allows the 250 VDC output voltage to be sustained in the event of brief interruptions to the DC supply voltage. The fuses F1 and F2 in the input protects the device in the event of internal defects.

In addition to the 240 VDC voltage, the power supply unit UNS 0868 generates a galvanically isolated 24 VDC contact interrogation voltage. The parallel connection of this contact interrogation voltage with a second UNS 0868 is allowed where 2-channel systems are used. A decoupling diode and two terminals 6, 7 and 8, 9 are provided for this purpose. The 24 VDC output is short-circuit-proof.

Device connections

2.5 mm² spring-clamp terminals are used for all connections.

Only one conductor (wire or strand) may be connected per terminal.

The connections are divided into 3 blocks:

- Terminals 1, 2, 4, 5 Supply voltage
- Terminals 6, 7, 8, 9 +24 V contact interrogation voltage
- Terminals 11 to 20 Output voltages to POW-4 and
signal processing device UNS 1860

The 3 connection blocks can be pulled out.