E I P **E600**

English

E600-3

Power stage for 2-phase stepper motor

Version: **december 2011**

E I P

UNE GAMME COMPLETE DE CONTROLEURS D'AXES
EINE VOLLSTANDIGE PALETTE VON ACHSENSTEUERUNGEN
A COMPLETE RANGE OF MOTION CONTROLLER .

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Contents:

Diagrams :

N° 415 9908 : E-600-3 Assembly drawing (*Plan de montage*)

1 Wiring

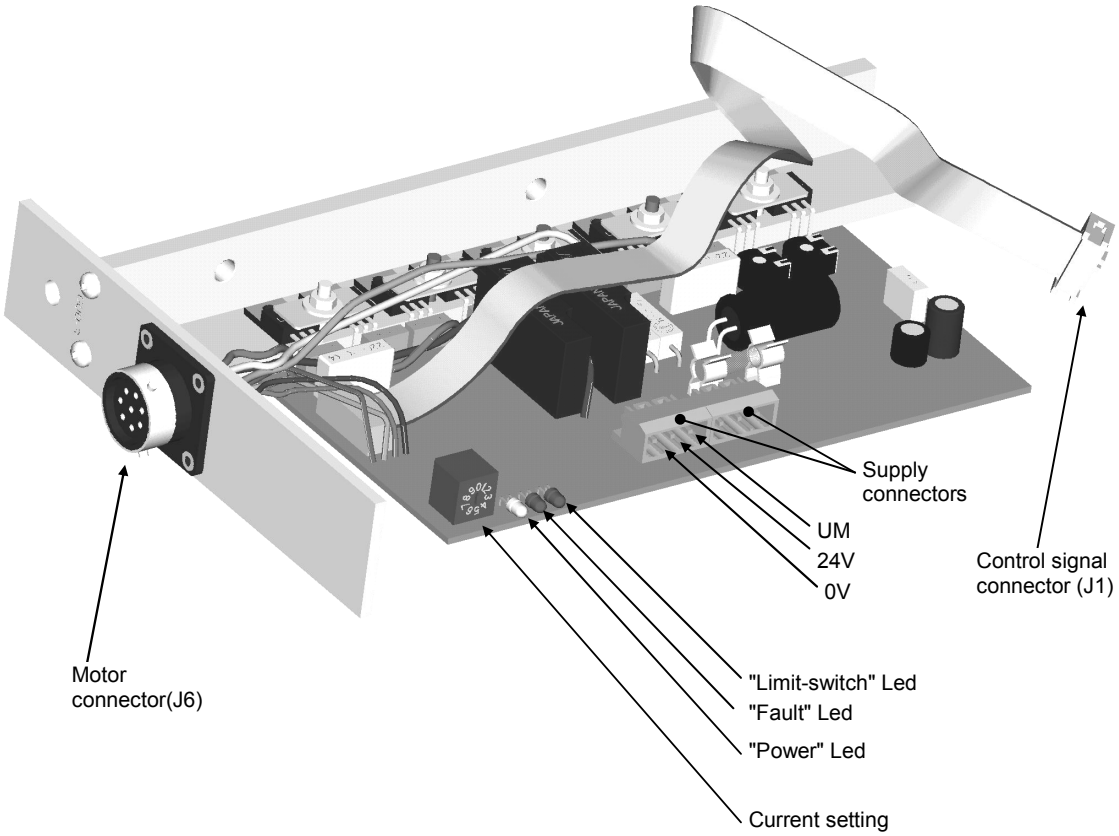

Figure 1-1 : General view

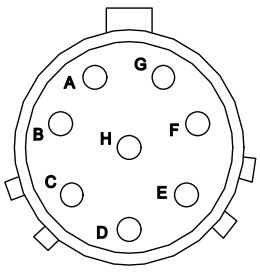

Figure 1-2 : BURNDY type connector, 8-pole (J6)

1.1 Configuration jumpers

The E600-3 has 3 configuration soldering jumpers which must be in the following state:

jumper	state
OPT1	Ouvert
OPT2	Ouvert
OPT3	Fermé

1.2 Supply connectors

Two connectors of the Weidmüller type with a pitch of 5.08 mm are accessible on the top. The two are in parallel and allow the connection of the power supply to other modules.

The power supply input is not protected against connection errors..

1.3 Motor connector J6

Connector for motor and two inputs

BROCHE	SIGNAL	DESTINATION
A	PHASE B	Motor
B	PHASE B	Motor
C	PHASE A	Motor
D	PHASE A	Motor
E	/FLSW	Forward Limit-switch ou referencing input. To be connected to inputs 0, 1, 2 or 3 of the E600, depending on the axis used.
F	/BLSW	Forward Limit-switch ou referencing input. To be connected to inputs 4, 5, 6 or 7 of the E600, depending on the axis used.
G	+24V	Sensor supply
H	0V	Sensor common line

Table 1-1 BURNDY, 8 poles

1.4 Control signal connector J1

The 10-pole flat cable connector is for connection to the E600-base controller. The choice of connector J2 to J5 on the logic board of the E-600 command allows the selection of the axes. **A flat cable connection error is destructive.**

1.5 Current setting

The rotary switch (CURRENT) is used to select the peak current per phase suitable for the motor.
The current values are valid when the "BOOST" signal is active. If it is inactive the current is only 60% of this value.

Setting	Current	Setting	Current
0	2 A	5	5.3 A
1	2.7 A	6	6 A
2	3.3 A	7	6.7 A
3	4 A	8	7.3 A
4	4.6 A	9	8 A

2 Specifications

2.1 General specifications

- 1600-microstep/revolution bipolar power stage
- "slow / fast decay" combined current control
- The "/ BOOST", "/ STEP", "/ DIR" signals are active low; the "FAULT" signal is active high; they are galvanically separated.
- Maximum ambient temperature: 50 °C

Consumption of the power stage according to the current and motor setting (Supply voltage 80 VDC):

EIP motor type	Current setting	Current consumption [A]	Current consumption [W]
	0	0.6	48
	1	1.2	96
	2	1.6	128
23-3	3	1.8	144
23-3	4	2	160
	5	2.1	168
34-2	6	2.2	176
34-2	7	2.4	192

2.2 Signaling LEDs

- The red LED, **D13** (LSW) indicates that a limit switch is activated, thereby blocking the rotation of the motor in one direction in order to avoid reaching the mechanical stop. (This function is inhibited by default in compact E600 devices)

- The red LED, **D14** (FAULT) visible on the top of the board indicates the following faults:
  - Over-current in the phases of the engine.
  - Over-temperature
  - Over-voltage and under-voltage on the motor supply (UM).

  The Fault condition inhibits the power to the motor. It is latched in order to be handled by the E600 controller. To reset the fault it is necessary to turn off the power supply a few seconds

- The green LED, **D19** (POWER) indicates that the board is powered

2.3 Mechanical assembly

- The width of the module is one unit corresponding to 30 mm.
- The bottom mounting angle for heat exchange requires 3 M5 x 20 screws.
- The back plate (on which the module type is marked) requires an M5 x 8 screw

REMARKS:

- All operations performed with tools inside the housing require the device to be de-energized while observing the time required for capacitor unloading.
- The power supply input the flat cable are not protected against connection errors.
- Observe the motor current setting.