10006/2/1 Diagnostic and battery module (DBM)

Description

The diagnostic and battery module (DBM) 10006/2/1 provides a low-cost interface to the user for diagnosing the FSC system.
The displays on the front of the module are used to display messages about the faults found by the diagnostic routines. The message gives type, rack and position number of the module found to be faulty.

In addition to the diagnostic messages, the DBM module is provided with a real-time clock function which gives the current date and time. Both date and time can be displayed on the front of the DBM module and can be read by the application program.
The DBM module is able to display the temperature values measured by two independent temperature sensors inside the Central Part of the FSC system, as well as the 5 Vdc level and the battery voltage. High and low alarm points and high and low trip points can be entered for the temperature measurement during DBM configuration in the 'Configure FSC system' program.

The switch at the front of the DBM module can be operated to retrieve system information (switch upwards) or diagnostic information (switch downwards).
To get all information, the switch must be operated several times.

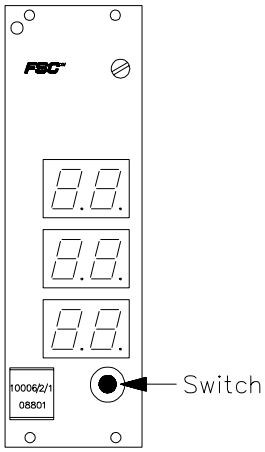


Figure 1
Front view

The diagnostic information is displayed as follows:

Top display:	Signal type:
AI	Analog input fault
dI	Digital input fault
Ao	Analog output fault
do	Digital output fault
CP	Central part fault
tL	Temperature low
tH	Temperature high
cE	HBD correlation (address HBD not set correct)
hb	HBD fault

Middle display: Rack number
Bottom display: Position number

The display will normally show the time (hours, minutes, seconds) and will automatically return to this mode when the switch is not used for approx. 30 seconds.

A flashing display indicates that a system fault is present and diagnostic information may be available.
A blank display means that no diagnostic information is present or diagnostic information was read before.

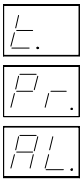
The system information cycle has four stages which can be called up by (repeatedly) moving the switch upward (see Table 1).

Table 1 Switch operation for system information

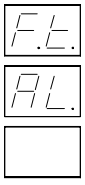
Switch moved upward →	0x	1x	2x	3x	4x
Top display	Day			5 Vdc units	Battery units
Middle display	Date	Degree 1	Degree 2	5 Vdc decimals	Battery decimals
Bottom display	Month	Unit	Unit		

Diagnostic messages, if they are available, can be retrieved by (repeatedly) moving the switch downward:

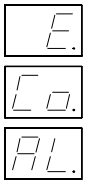
Temperature alarm



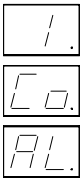
Second fault timer started



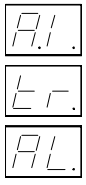
External communication error



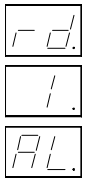
Internal communication error



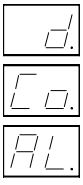
Transmitter fault alarm



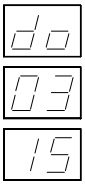
Redundant input fault alarm



Device communication error



Module faulty (example)



Batteries

The DBM module holds the rechargeable batteries that supply the back-up power for the RAM memory on the CPU (10002/1/1 or 10002/1/2), COM modules (10004/./.) and MEM modules (10003/1/1).
It is recommended that the batteries are replaced every four years.

Jumpers

Jumper J1 switches the batteries in stock (OFF) or in circuit (ON).
Jumpers J2 and J3 are factory-set (closed).

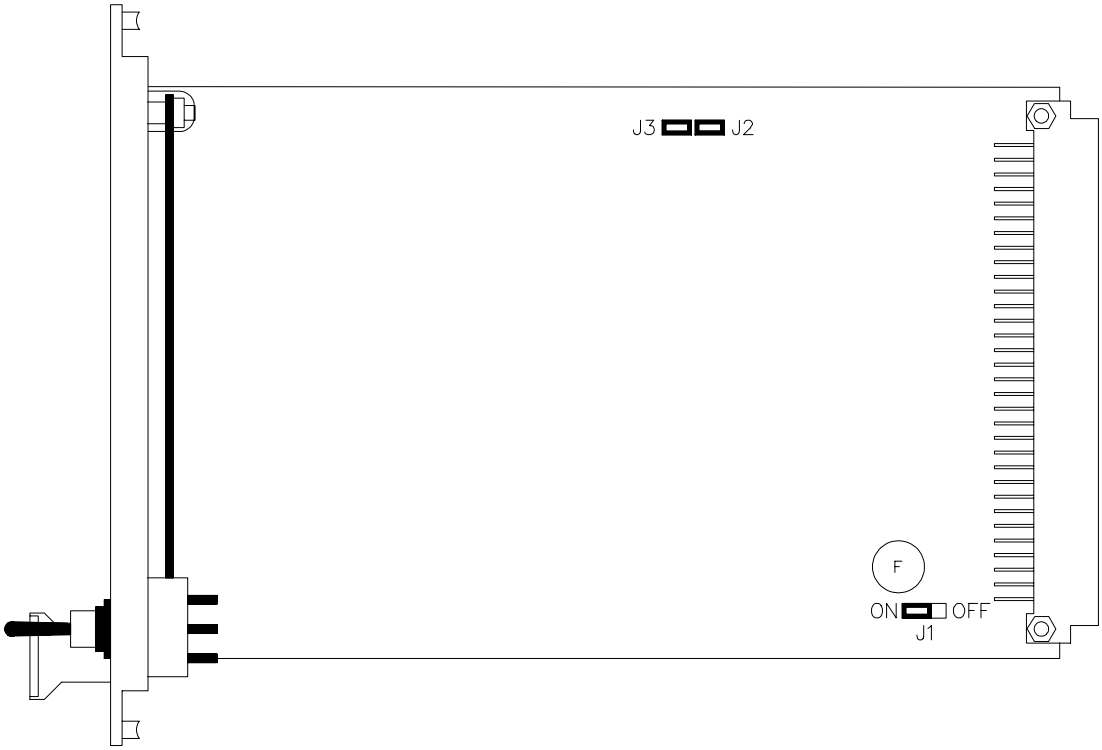


Figure 2 Jumper settings on 10006/2/1 module