**PTM electronics – ELMB module**

- **10 x TE**
- **160 mm**
- **3U**
- **2 x 64 pin connectors (DIN 41612)**
- **ELMB = Embedded Local Monitor Board (ATLAS):**
  - 64 channel sigma-delta ADC (16 bit)
  - Programmable microcontroller
  - CANbus interface + CANopen protocol
  - 8 + 16 digital I/O lines

(*) -- Position ID: each backplane connector is prewired with a unique binary code which identifies crate and position inside the crate. ELMB reads this code via digital inputs and sends to PVSS in order to build the mapping “ELMB_xx – crate/position”.

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Based on ATLAS ELMB (Embedded Local Monitor Board)

ELMB functional layout

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VAP, VAG
8 to 12V, 10mA

VDP, VDG
3.5V - 12V, 15 mA

VCP, VCG
8 to 12V, 20mA

signals

64 ch MUX ADC

ANALOG GND

+5V

VAP, VAG
8 to 12V, 10mA

VDP, VDG
3.5V - 12V, 15 mA

VCP, VCG
8 to 12V, 20mA

CAN GND

DIGITAL GND

Voltage
Regulator
3.3V

Voltage
Regulator
5V

ATmega128
128K Flash
4K SRAM
4k EEPROM

DIP switches
CAN controller

Port A
Port C
Port F
(ther)

8
8
8
10

Digital I/O

CAN Transceiver

CAN bus
cable
PTM : ELMB

- Plug-on Board
PTM : ELMB

Mother Board

40 ELMBs +6 MBs bought