

Isolated 4 channels analog measurement device. Remote analog acquisition

CML70



• 4 isolated analog inputs

- individual configuration of each inputs.
- 1 alarm threshold by input.

CML70T	thermocouple, PT100 3 wires
CML70PT4	thermocouple, PT100 4 wires
CML70P	0..4...20 mA and 0...10V
CML70B	0..24V...48V...127V...150V

• Communication :

- Modbus RTU
- Modbus-TCP (Ethernet) 6 simultaneous connections
- Embedded web server
- SNMP

• Application :

Acquisition interface, measure, control,
monitoring: motor, transformer, alternator ...
protection relay: temperature, pressure, current....



The CML70 is a four channels compact acquisition unit. Designed for demanding application in terms of accuracy and functional safety, the complete isolation of the product provide a total independence of each measurement channel.

Measure inputs:

(All inputs are isolated from each other)

- CML70t : thermocouples , Pt100 2, 3 wires, mV, resistance.
- CML70pt4 : thermocouples , Pt100 4 wires.
- CML70p : 0...20mA; 4...20 mA; 0.....10V (process)
- CML70B : 0...24V ...48V ...127V ...150Vdc (monitoring battery, supplies)

Special input type on request:

NTC , PTC , NI100 , CU10 , PT1000 , potentiometer, 0...100V,

Front face :

- LCD display with 2 lines of 16 characters (back-lighted).
- Three push buttons to configure the product.
(choice of input type, thresholds setting, communication, display mode....).

Alarm:

1 configurable alarm by measure channel.
(Threshold, direction, hysteresis and delay, sensor breaking detection.)
These alarms control one relay common to all channels.
The relay can be setting for positive or negative security (NO/NC).

Communication:

In option, the measurement feedback can be carried out via several communication protocols:

- RS485 : Modbus RTU
- Ethernet : Modbus TCP, SNMP

Special functions:

- Selection or inhibition of each measured channels
- Differential alarm for monitoring a temperature gap.

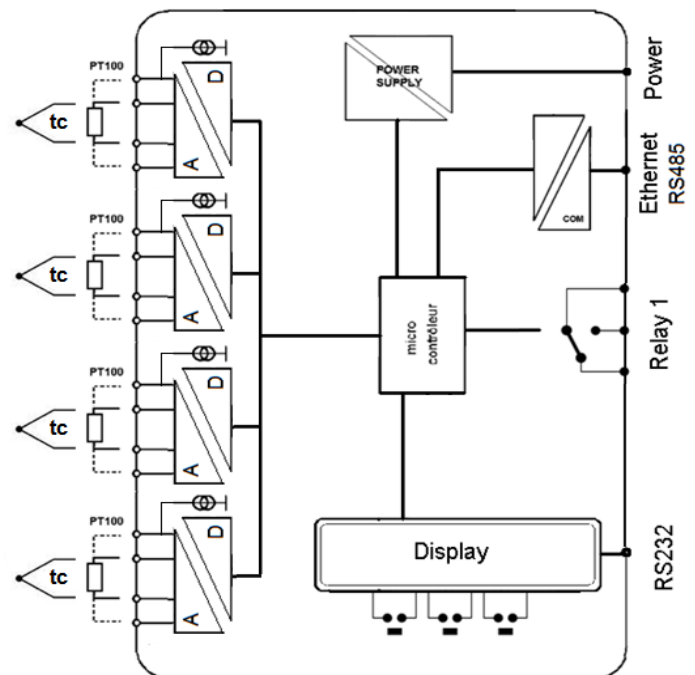
Feature:

- Mounting on DIN rail (symmetrical).
- Connection on spring terminal blocks (max section 1.5 mm²).
- Conformal coating.
- Protection rating: IP20.

Parameters setting:

The device can be configured via the front panel or via the serial RS232 link. USB to 3 points cable available separately.
Firmware update is also possible with this serial link.

Synoptic:



Version and order code:

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CML70t:	4 temperature inputs « Tc, PT100 3 wires »
CML70pt4:	4 temperature inputs « Tc, PT100 4 wires »
CML70p:	4 process inputs « mA , V »
CML70B:	4 high level voltage input (up to 150Vdc)

All versions: 1 relay for alarm or watchdog
option -D: device with pluggable terminal blocks

Communication option:

/CM	RS485 link, MODBUS RTU
/CMTCP	Ethernet link, MODBUS TCP
/SNMP	Ethernet link, SNMP protocol

INPUT

TYPE	RANGE	ACCURACY
Version : CML70T (Temperature)		
Voltage	0 / 120 mV	+/- 20 µV
voltage input impedance		> 4 Mohms
Resistance	0 / 380 ohms	+/- 0.15 ohms
Pt100 2 ou 3 wires	-200 / 600 °C	+/- 0.25 °C
Pt100 4 wires	-200 / 600 °C	+/- 0.1 °C
Tc B	200 / 1800 °C	+/- 3 °C
Tc E	-250 / 1000 °C	+/- 0.5 °C
Tc J	-200 / 700 °C	+/- 0.7 °C
Tc K	-200 / 1350 °C	+/- 0.8 °C
Tc R	0 / 1750 °C	+/- 3 °C
Tc S	0 / 1600 °C	+/- 3 °C
Tc T	-250 / 400 °C	+/- 0.7 °C
Compensation T°	-10 / 60 °C	+/- 0.2 °C
Version : CML70P (process)		
Voltage	0 / 10 V	+/- 5 mV
Voltage input impedance		250 Kohms
Current	0 / 20 mA	+/- 10 µA
Current	4 / 20 mA	+/- 10 µA
Current input impedance		5 ohms
Cycle time (measure of all channels)		< 500 ms

COMMUNICATION

Modbus RTU, RS485 link, baudrate: 9600 ,19200 bauds
 2 wires connection on spring terminal blocks.
 Modbus TCP/ SNMP over Ethernet 10/100 base T (connexion RJ 45)

POWER SUPPLY (to be define at order)

11.....30Vdc or 20.....85 Vac-dc or 85.....265 Vac-dc : 4VA

RELAY

Resistive breaking capacity 2A / 250 Vac

ENVIRONMENT

Operating temperature	-20 to 60 °C
Storage temperature	-25 to +85 °C
Effect (% of full scale)	< 0.01 % / °C
Humidity	85 % (not condensed)
Weight	~ 200 g
Protection	IP20
Dielectric strength:	
input/power supply/relay/communication	1500 Vrms continuous
Input/input	500 Vrms continuous
MTBF (MIL HDBK 217F)	> 1 500 000 Hrs @ 25°C
Life time	> 180 000 Hrs @ 30°C
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibration IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibration IEC 60068-2-6 (transportation)	2 G / 10 - 150 Hz

Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	group 1 class A
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



WIRING AND OUTLINE DIMENSIONS:

