

Pulse concentrator / remote digital inputs Parallel to Ethernet converter

TYPE : ELL100

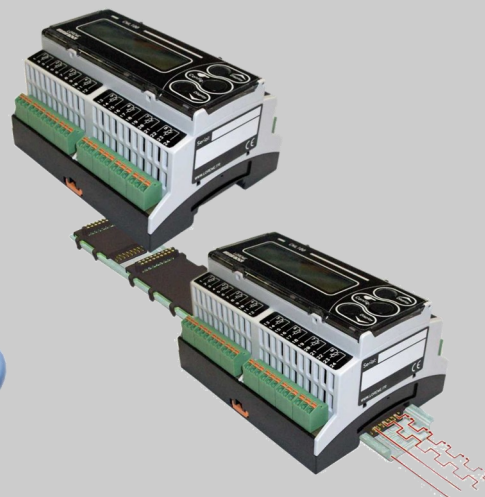


• **from 4 to 16 digital inputs with functions:**

- State registers
- 32 bits counters
- "ON" and "OFF" elapsed time counters
- inter-pulse duration (power or flow rate)
- frequency up to 6 Hz

• **Ethernet Modbus TCP or SNMP link**

- Bus connection possibility onto the DIN rail
- Embedded Web Server
- Option: Power over Ethernet (POE)



• **Application:**

- Interface for metering electrical energy, gas, water, air.
- State control, operating hours counting.....
- Remote diagnostics, test equipment, automation,
- Parallel (Gray, BCD, Binary) to Ethernet converter

The ELL100 is a digital inputs module for a wide range of applications, from simple status monitoring, through energy or heat metering, flow measurement (moving average) or run time and stop time for machine control. The data are available over Ethernet by web server or with Modbus TCP protocol. The internal Bus (embedded in DIN rail) allows to group several modules on a single Ethernet link.

Description digital inputs:

- Type of inputs possibilities by wiring:
- Dry contact, free potential input, with internal 24 V supply, common polarity can be + or - (common separated by group of 4 inputs)
 - Voltage level (detection on positive or negative polarity)
 - With external power supply, "wet" contact in PNP or NPN mode. common polarity can be + or -.
- For each input:
- debounce filter for use with electromechanical relay,
 - records retention after power loss,
 - Fast counting available (8 Hz max),
 - ON or OFF status register,
 - Global summation index,
 - timings (ON and OFF elapsed time)
 - Computing power or instantaneous flow by measuring time between pulses (derivative from counting)

Front face:

- LCD display with 2 lines of 16 characters (back-lighted).
- Three push buttons for configuration.

Features:

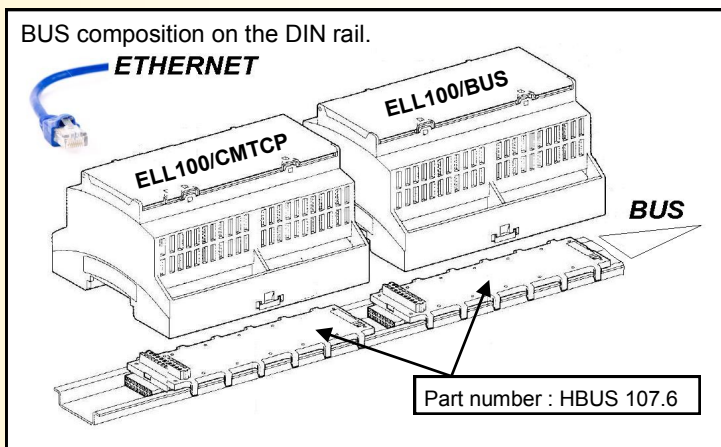
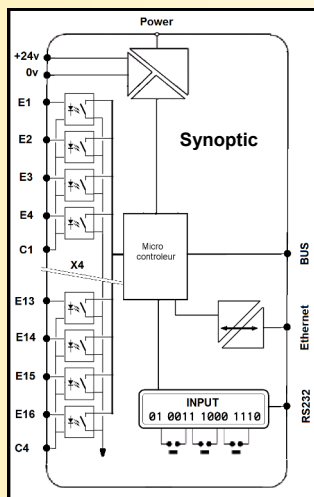
- DIN rail mounting (symmetrical)
- Connection on spring terminals (max section 1.5 mm²).
- Conformal coating.
- Protection rating: IP20.

Configuration:

- via the front face buttons
- firmware update via RS232 link. (USB-rs232 cable provide separately)

Communication (model dependant):

- Web server
- Modbus TCP over Ethernet
- 10/100 T base (RJ45 connection)
- Modbus over RS485



Version and order code:

- ELL100-4 : 4 digitals inputs
- ELL100-8 : 8 digitals inputs
- ELL100-12 : 12 digitals inputs
- ELL100-16 : 16 digitals inputs

Communication:

- ELL100...../CMTCP : Ethernet MODBUS TCP link
- ELL100...../BUS : Slave version on internal BUS (MODBUS TCP) (up to 8 units on the internal bus : 1 x .../CMTCP + 7x .../BUS)
- ELL100...../SNMP : Ethernet link with SNMP protocol
- ELL100...../CM : RS485 MODBUS 9600 bps link (no bus on DIN rail for MODBUS or SNMP)

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DIGITAL INPUT

Type	Range	
Voltage input (24V version)	Min	Max
level 0	0 V	+/- 2 V
level 1	+/- 4.5 V	+/- 35 V

Input impedance: ~ 10 kohms

Dry contact or NPN, PNP not polarized input:
 Internal bias voltage: 22Vdc 50mA (isolated)
 Current drawn by an input: ~ 2mA @ 22V
 The inputs common can be connected to +22 V or 0V

NPN or PNP input already biased externally.
 current absorbed or supplied by an input: ~ +/-2.5 mA @ 24V

Scan: Asynchronous, 20 cycles per second.

Minimum pulse width: 75ms.
 Debounce filter: 25ms.

inter pulse delay measurement: 100 ms to 60 minutes, 50 ms resolution. Programmable time out : 1 minute to 60 minutes (extracting a flow rate or an instantaneous power from an energy meter or flow meter with a pulse output)

32 bits counters (ON time, OFF time, totalization)

COMMUNICATION

Modbus TCP over Ethernet 10 /100 T Base Port 502 or SNMP RJ45 connector, RS485 Modbus RTU 9600 / 19200bds.

POWER SUPPLY (to define at order)
 11 to 30 dc, 3 VA
 20 to 265 Vac-dc, 3 VA (standard)

ENVIRONMENT

Operating temperature -20 to 70 °C
 Storage temperature -20 to 85 °C
 Humidity 85 % not condensed

Weight 250 g
 Protection rating IP 20

Dielectric strength:
 Input / Power Supply / Communication: 1500 Vrms continuously
 inputs/inputs : 1000 Vrms continuously
 (isolation by groups of 4 inputs, 1 common for 4 inputs)

MTBF (MIL HDBK 217F) > 3 000 000 Hrs @ 25°C
 life time > 200 000 Hrs @ 30°C

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 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
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:

