

**Modular system:**

**Up to 32 analog inputs/outputs (Programmable temperature and process)  
Up to 256 TOR inputs/outputs**

**Multi protocol :**        **Profibus,  
Modbus,  
Modbus TCP**

**Evolutionary :**    **new protocols by single  
change of communication  
concentrator.**



**General specification :**

A deported and communicating on industrial protocol inputs/outputs rack, entire equipment is composed of a communication concentrator and as need, analog acquisition card (programmable), TOR input card, analog output card (programmable) or TOR output card. (16 available site)  
\* Analog inputs card, 2 channels (ref : CNL20-2/E) are configurable in mV, Volt, mA, Thermocouple or Pt100 ... analog outputs channels, 2 channels (ref : CNL20-2/S) are configurable in mA or Volt.  
\* TOR inputs card , 16 channels (ref : ELT 20-16) are use in dry or polarized contact input from 5 to 50 Vdc.  
\* TOR outputs card, 16 channels (ref : SLT 20-16) allows 16 potential free NO contact (switching power 1A / 60Vac)  
An universal version of analog inputs outputs card is available (CNL20-2/ES) allowing 3 type of processing : 1) in basic measure converter without switching, 2) in deported inputs, 3) in deported output.

The communication concentrator repatriates the whole of variable of inputs / outputs cards improving the exchange speeds with outside. This solution allows to relieve the communication tasks realized by the command control station(s) (supervisors, automatons...), the rack appearing on network like a only slave. The request number and the refresh are so considerably reduce decreasing the network obstruction and the automaton load. The communication concentrator interchangeability allows a fast and easy evolution of the rack to a new protocol.

**Inputs / outputs cards specification ( CNL20/2 ) :**

The CNL20/2 can be an universal 2 channels input card (CNL20/2E) or 2 channels output card (CNL20/2S) (assignment carried out in factory) or a multifunction 2 channels card (CNL20-2/ES) witch can be set in converter mode and in input/output automaton mode .These cards are locally configurable by RS232 link allowing to define their operation mode:  
for inputs cards : type of measure : mV ,Volt ,mA, Pt100 , thermocouple , ...  
for outputs cards :the nature of command signal ( 4/20 mA ,0/20 mA ,0/10 V , .....)  
for multifunctions cards: their function mode (Converter, In/Out Automaton), the type of measure (mV, mA, ...) and the analog output characteristics (0/20 mA, 4/20 mA, limitation, ...).  
Inputs / outputs cards ensure the rack complete galvanic insulation.



**Inputs cards description (ELT20-16):**

The ELT20-16 card have 16 logical inputs usable in dry or polarized contact inputs from 5 to, 50 Vdc.  
The inputs are galvanic insulated of rack and have a common point each other.  
A polarization voltage (24v) of dry contact inputs is available (insulated voltage)  
A landing of LED in the front face display the inputs states.

**Outputs cards specification (SLT20-16):**

The ELT20-16 card have 16 logical outputs on NO potential free static relay  
(1 common point for the 16 inputs) interrupting capacity 1A 60V.  
A column of LED in the front face display the inputs states.



**Communication concentrator specification ( CCL20 ) :**

The CCL20 is a multi protocol communication concentrator allowing to effect footbridge between the rack inputs / outputs cards and a industrial network:  
it take in charge 3 protocols : Modbus and Profibus on RS485 link (subD9)  
and Modbus TCP on Ethernet 10/100 full duplex (rj45).  
it takes load automatically of repatriation of all rack measures with their local buffer. A single request allows to read and write the whole of a rack measure.  
The CCL20 behaving like a only slave opposite the automaton.

**General characteristics :**

Rack 19 " height 3U equipped with screw connector.  
Inputs outputs card 3U width 4TE,  
Communication concentrator card 3U width 4TE (located on left site of rack).  
Rack full galvanic insulation (inputs / outputs / communication): 1500 veff.  
Universal power supply: 20 - 70 Vac / Vdc or 80 - 265 Vac / Vdc

**CNL20/2E : (analog input)**

INPUT	RANGE	ACCURACY
Voltage mV	-15 / 140 mV	+/- 20 µV
Voltage V	-15 / 140 V	+/- 2 mV
Impedance	> 1 MOhms	
Current	0 / 30 mA	+/- 20 µA
Impedance	50 Ohms	
Resistance	0 / 400 Ohms	+/- 0.1 Ohms
Pt100	-200 / 800 °C	+/- 0.3 °C
Polarization	0.3 mA	
Tc B	200 / 1800 °C	+/- 2 °C
Tc E	-250 / 1000 °C	+/- 0.3 °C
Tc J	-200 / 600 °C	+/- 0.4 °C
Tc K	-200 / 1350 °C	+/- 0.5 °C
Tc R	0 / 1750 °C	+/- 1.5 °C
Tc S	0 / 1600 °C	+/- 1.5 °C
Tc T	250 / 400 °C	+/- 0.4 °C
T° Compensation	-10 / 60 °C	+/- 0.2 °C

Other couples on request.

Sensor power supply 24 V smoothed / limited to 25 mA  
 Potentiometer reference 5 V

Cycle time 160 ms

**CNL20/2S : (analog output)**

OUTPUT	RANGE	ACCURACY
Current	0 ... 4 ... 20 mA	+/- 10 µA
Load (max.)	1000 Ohms	
Cycle time	20 ms	

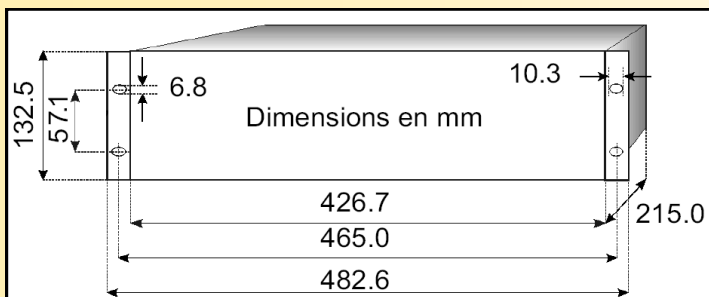
**ELT20-16 : (logical input)**

INPUT	characteristics
Dry contact	polarization voltage 22V current : 10 mA
Voltage	from 5Vdc to 50Vdc for level 1 level 0 ==> < 3Vdc
Cycle time	10 ms

**SLT20-16 : (logical output)**

output	characteristics
Dry contact	interrupting capacity maxi : 1A 60V interrupting current mini : NA endurance 1 000 000 switching
Cycle time	10 ms

**Rack wiring and outline dimensions**



**CCL20 : (network concentrator)**

PROTOCOL	CHARACTERISTICS
PROFIBUS DP v0	9600 to 1.5MBBS Wiring sub D 9 female plug
MODBUS (JBUS)	4800 to 19200 BPS parity : pair , impair , without Wiring sub D 9 female plug
MODBUS TCP	10 / 100 MBS auto sense Wiring RJ 45

**Rack general characteristic**

**RECOMMENDED OPERATING CONDITIONS**

Temperature operating	-10 to 60 °C
Temperature stocking	-20 to +85 °C
Influence	< 0.005 % / °C (full scale)
Relative humidity	85 % (no condensed)
<b>Power supply</b>	80 to 265 Vac - dc consumption maxi 70 VA

**Electromagnetic compatibility**

Generic standards: **NFEN50081-2 / NFEN50082-2**



<b>EN55011</b>	meet	group 1 / class A		
<b>EN61000-4-2</b>	no influence	B	<b>ENV50140</b>	< +/- 5 % A
<b>EN61000-4-4</b>	< +/- 5 %	B	<b>ENV50141</b>	< +/- 10 % A
<b>EN61000-4-5</b>	< +/- 5 %	B	<b>ENV50204</b>	no influence A
<b>EN61000-4-8</b>	no influence	A		
<b>EN61000-4-11</b>	< +/- 5 %	B	DBT	73/23/CEE

**SYNOPTYC**

