

• **All process and temperature inputs**
(Volt, mV, mA, pwr.supply, potentiometer)
(thermocouple,PT100)

- **CNLR20:** Rack board
- **CNLB20:** DIN rail case
- **CNL(R,B)20:** 1 analog output
- **CNL(R,B)20/S2:** 2 analog outputs
- **CNL(R,B)20/S3:** 3 analog outputs

- **CNL(R,B)20/R:** 1 analog output, 2 relays
- **CNL(R,B)20/C:** 1 RS485 Modbus link,



CNLR20



CNLB20

CNL20 is a converter for 19" rack mounting (DIN rail mounting in option) which dispose a lot of options to meet various needs.

FUNCTIONALITY:

Measure:

- thermocouples and RTD probe with linearization, line length compensation, internal or external cold junction compensation.
- mA, mV, V, resistance variation,
- potentiometer, sensor power supply.

Calculation functions:

- square root extraction,
- scale conversion,
- special configurable linearization up to 52 points.

Outputs:

- configurable analog output galvanic insulated:
output type and range,
security value, limit, response time.
- configurable relay:
watchdog, supervision function (operating temperature, configuration access),
sensor breaking detection,
alarm, direction, threshold, hysteresis,
security, temporizing.
- configurable RS485 digital link MODBUS/JBUS:
address, speed,
data format.

General information:

- RS232 standard digital output, measure visualization, configuration access,
- power supply 115 and 230 Vac (others on request),
- low consumption 3 VA,
- symmetrical DIN rail fastening (CNLB20) or assembly in 19" rack (CNLR20) 4TE (20 mm).

SECURITY:

- galvanic insulation input/output/power supply /relay,
- configuration saving, holding safety > 10 years,
- noise immunity, measure filtering,
- watchdog supervising program process,
- regeneration of internal parameters on each measure,
- stability towards ambient temperature changes.

DIALOGUE-CONFIGURATION:

The device can interact via the RS232 link with any system emulating a terminal. Example: HyperTerminal in Windows.

Free supply of RS232 cable on single request.

Through the terminal, the user will be able to:

- visualize measure,
- shift measure,
- configure the device:

input,	specials functions,
range,	relay,
output,	communication.

Version and order command:

- CNL20:** 1 analog output.
- CNL20/R:** 1 analog output, 2 relays.
- CNL20/S2:** 2 analog outputs, identical configuration.
- CNL20/S3:** 3 analog outputs, identical configuration.
- CNL20/C:** 1 RS485 MODBUS/JBUS output,
1 analog output.

Note: /R and /C options can be held concurrently.
/C option has an analog output only on rack version.
/S2 and /S3 options can not be held concurrently with /R and /C options.

INPUT		
TYPE	RANGE	ACCURACY
Low levels voltage	-10 / 110 mV	+/- 20 µV
High levels voltage	-2 / 22 V	+/- 2 mV
External attenuator	/S version	
Current	0 / 20 mA	+/- 2 µA
Resistance	0 / 350 Ohms	+/- 0.1 Ohms
Pt100	-200 / 600 °C	+/- 0.3 °C
Tc B	200 / 1800 °C	+/- 2 °C
Tc E	-250 / 1000 °C	+/- 0.25 °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	
Other couples on request		
Impedance of low level voltage	> 1 MOhms	
Impedance of high level voltage	50 kOhms	
Current input shunt	250 Ohms internal	
/S version	5 Ohms external	
Sampling rate	14 / second	
Response time	min. 100 ms	

OUTPUT		
TYPE	RANGE	ACCURACY
Current	0 / 20 mA	+/- 10 µA
Max. load	600 Ohms	CNL20, /R, /C
	450 Ohms	CNL20/S
Voltage	0 / 10 V	+/- 5 mV
Internal shunt	500 Ohms	/R, /C version
External shunt	500 Ohms	/S version


RELAY	
Insulated reverser contact	1500 Vac
Switching power	5 A / 250 V

RS485	
Speed	600 to 9600 bauds
Format	32 bits floating 16, 12, 8 bits integer

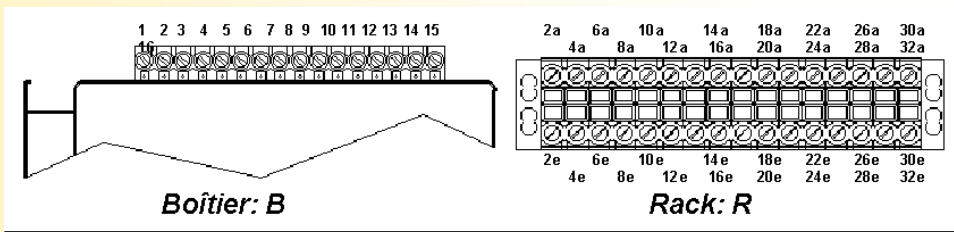
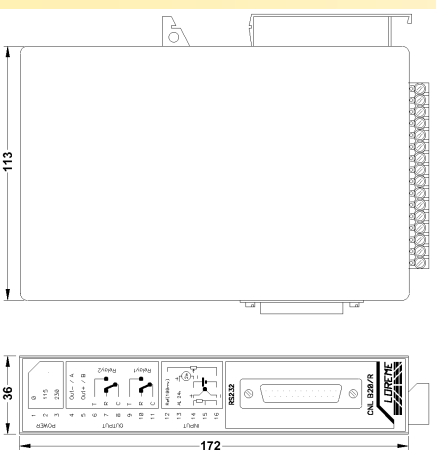
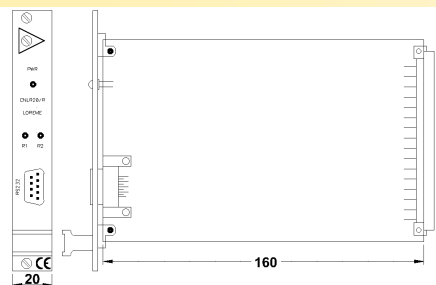
AUXILIARY	
Sensor power supply	15 Vdc (smoothed)
for power supply voltage rating	
Potentiometer reference	100 mV

POWER SUPPLY	
(to specify at the order)	
115 Vac and 230 Vac, 50-60 Hz, +/- 10 %	3 VA
20 to 70 Vac, 3.2 VA, (only box version)	
80 to 265 Vac, 3.2 VA, (only box version)	

RECOMMENDED OPERATING CONDITIONS	
Temperature	
Operating	-10 to 60 °C
Storage	-20 to +85 °C
Influence (% of full scale)	< 0.005 % / °C
Relative humidity	85 % not condensed
Weight	CNLB20: 380 g, CNLR20: 270 g
Protection	IP20 (case version)
Dielectric strength	1500 Veff continuous
MTBF	Input/Pwr.Supply/Outputs/Relay > 300.000 hours

Electromagnetic compatibility			
Generic standards: NFEN50081-2 / NFEN50082-2			
EN55011	meet	group 1 / class A	
EN61000-4-2	no influence	B	ENV50140 < +/- 5 % A
EN61000-4-4	< +/- 5 %	B	ENV50141 < +/- 10 % A
EN61000-4-5	< +/- 5 %	B	ENV50204 no influence A
EN61000-4-8	no influence	A	
EN61000-4-11	< +/- 5 %	B	DBT 73/23/CEE

WIRING AND OUTLINE DIMENSIONS:



B	R	CNL20/R, CNL20/C, CNL20/S et CNL20
1	2e ou 2a	0 V (PWR)
2	4e ou 4a	115 V (PWR)
3	6e ou 6a	230 V (PWR)
12	24e ou 24a	
13	26e ou 26a	
14	28e ou 28a	
15	30e ou 30a	
16	32e ou 32a	

B	R	CNL20	B	R	CNL20/R	B	R	CNL20/C	B	R	CNL20/S
4	8e	Out- (ana.)	4	8e	Out- (ana.)	4	8a	RS485 A	4	8a	Out 3 (-)
5	10e	Out+ (ana.)	5	10e	Out+ (ana.)	5	10a	RS485 B	5	10a	Out 3 (+)
			6	12e	T (Relay 2)		8e	Out- (ana.)	6	12a	Nc
			7	14e	R (Relay 2)		10e	Out+ (ana.)	7	14a	Out 2 (-)
			8	16e	C (Relay 2)				8	16a	Out 2 (+)
			9	18e	T (Relay 1)				9	18a	Nc
			10	20e	R (Relay 1)				10	20a	Out 1 (-)
			11	22e	C (Relay 1)				11	22a	Out 1 (+)