



**Caution:** « ORP » MODUPAC built-in only 2 relays outputs and 2 analogues outputs. Functions of each output must be defined during the programming task. All the possibilities of module could not be used until all outputs are affected.

c) Programming protocols:



See the annex document: « MODUPAC General programming synoptic»



**Caution:** Repairs must be done by a qualified technician and must be sent in our customer service.



**Recycled products:** Paper and carton boxes must be recycled according to standards.



**WEEE directives:** Electricals parts must be forwarded us to perform recycling process according to 2002/96/CE European directives and to the management of the electric and electronic wastes (WEEE).

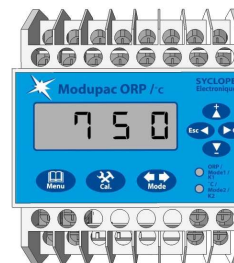


In case of troubles, call our customer service.

**SYCLOPE Electronique S.A. (Headquarter)**  
 Z.I. Aérople Pyrénées  
 Rue du Bruscos  
 64 230 SAUVAGNON  
 FRANCE  
 Phone : (33) 05 59 33 70 36  
 Fax : (33) 05 59 33 70 37  
 Email : [service-technique@syclope.fr](mailto:service-technique@syclope.fr)

© 2004 by SYCLOPE Electronique S.A.  
 Subject to modifications.

## MODUPAC (ORP) Direct ORP acquisitions Module for standard DIN 4U rails



Power supply: 24 Volts DC Power: 3Watts max with « Power » module  
**Input 1:** Direct pH acquisitions according to measurement cell type.  
 Measurement ranges: 0...1000 mV, 0...1500mV and +/-1000mV  
**Input 2:** pT100 temperature probe  
 Measurement range: 0 to 100°C (For other values contact us)  
 2 programmable discrete relays outputs Max: 48V@1A  
 2 programmable analogues outputs (Regulations or data transfer "BMS")  
 1 RS485 communication output connection with « COMT » module  
 1 discrete input for distant remote or flow sensor.



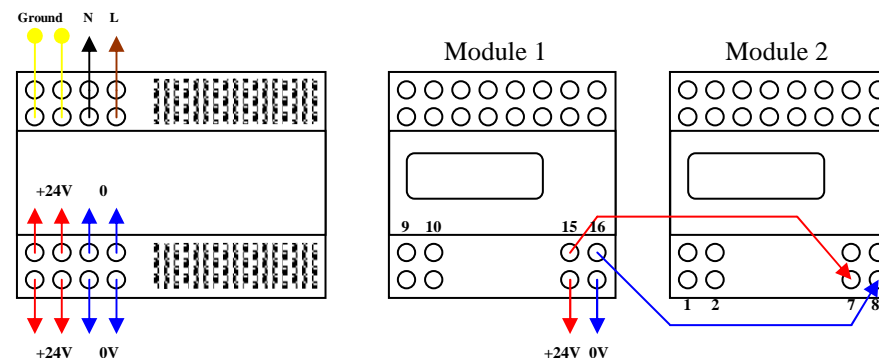
**Note:** It is essential to use 24V DC 1,5 A MODUPAC "Power" module in order to insure the correct operation of "ORP" module and to preserve the galvanic isolation of the equipments.

### 1: Connecting / Supplies:

a) 230Volts 50Hz and 24Volts DC chain supplies connecting.



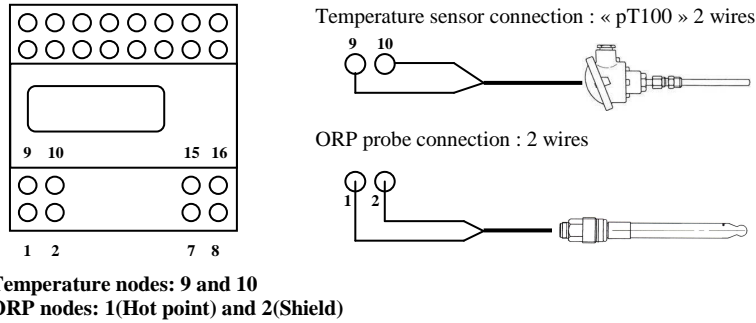
**Caution:** « MODUPAC Power » power module must be installed according to applicable standards. It must be protect by a thermal circuit breaker or a fuse.



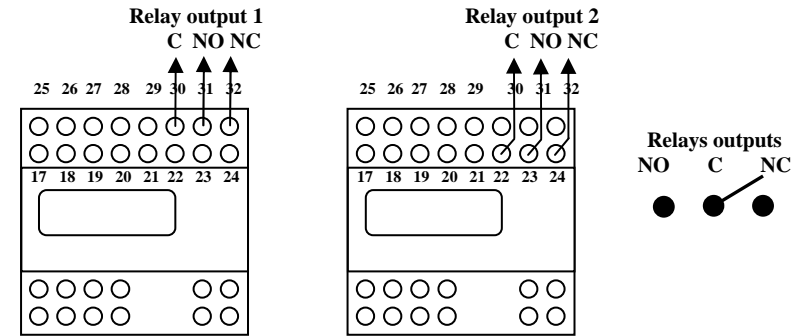
Maximal number of modules chained with « MODUPAC Power » module is finding out by maximal consumption of each acquisition module.

Ex: Power supply MODUPAC « Power » Ref: **MAL0000**: 30W  
 Maximal power of MODUPAC « ORP » 3W  
 Maximal number of module by supply: **10**

b) (Optional) Temperature sensor and ORP.

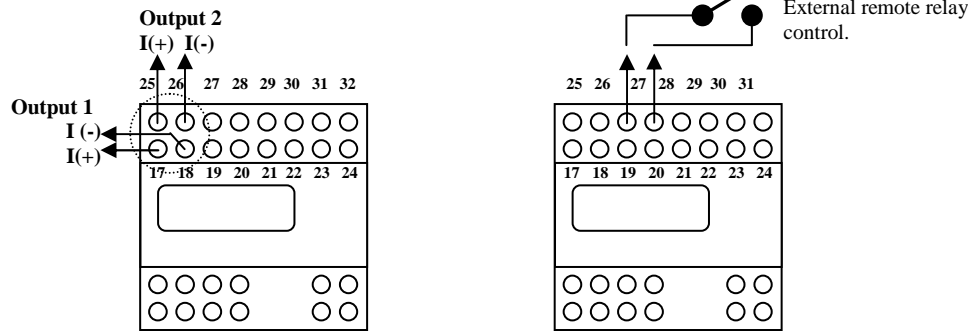


e) Relays outputs connection:



c) 0/4...20mA analogues outputs connection and.....

The remote control discrete input:

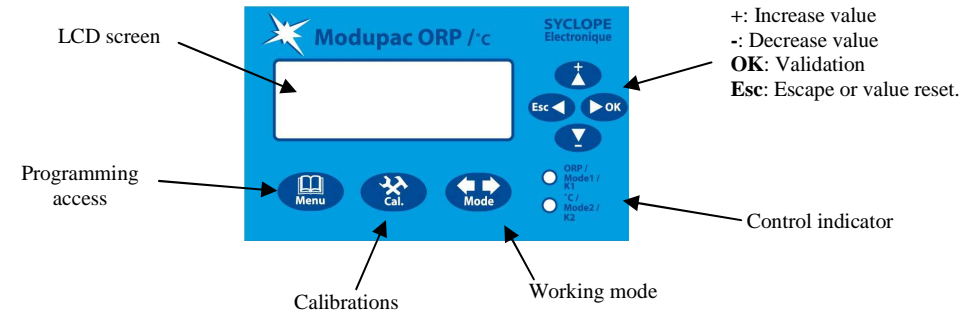


**Caution:** When the remote control is disabled (open circuit) both indicators blinks.

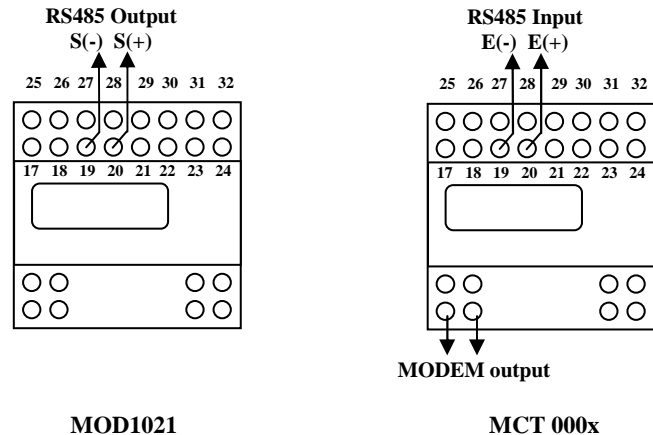
**Caution:** Relays outputs don't support more power.  
 Maximal voltage on relay can't exceed 48 Volts (AC or DC)  
 Maximal current can't exceed 1A.

**2: Programming:**

a) Module presentation:



d) RS485 communication output connection with «COMT»module:



b) Main functions

The MODUPAC « ORP » can be programmed to do following functions:

- ✓ Regulator, Analyser for ORP  
 (According the probe type "Input 1: Direct measurement")
- ✓ Available in different measurement range versions: 0...1000 mV, 0...1500mV and +/-1000mV
- ✓ Regulator, Analyser for temperature 0 to 100°C (Input 2: pt100).
- ✓ pH and temperature with P, PI, PID and auto-adaptive regulation.
  - Proportional band : 1 to 100 %
  - Constant : 1 to 100 %
  - Integral time : 1 to 1000 s
  - Derived time : 1 to 1000 s
  - Dead band : 0 to 50 %
- ✓ Discrete mode regulation, width modulation, frequency modulation or 3 points regulation.
- ✓ Programmable alarm threshold high and low value, for each input.
- ✓ Remote discrete control input or pulsed frequency control.
- ✓ 2 relays outputs configurable in alarm or regulation.
- ✓ 2 0/4...20mA outputs configurable in regulation or data transfer (BMS).
- ✓ RS 485 communication output to save and transmit data with « COMT » module.