

ESY 1~ ALL – in - ONE



Specialized Vac stepless controllers
for

Ventilated Heat Exchangers
Drycoolers & Aircooled Condensers

S.EL.PRO.
sistemi elettronici professionali

FAN speed Controls Solutions

Global
3
YEAR
Warranty

VAC-UNIVERSAL Stepless Controller for Single-Phase asynchronous motors

ESY 1~

OPERATING PRINCIPLE - (Stepless TRIAC controller)

Electronic phase-cutting voltage regulator, in order to control the speed of Single-Phase asynchronous motors applied to AXIAL and CENTRIFUGAL fans, used on Ventilated Heat Exchangers for Air-Conditioning, Refrigeration, Ventilation, Heating, Destratification, and Air Handling systems.

It is recommended to verify the suitability of the fans motors to be used with the phase cutting control (class F or H and defluxed).

APPLICATIONS

The regulators are specialized for the proportional control, from 0% to 100%, of the Vac active voltage on the load (RPM% fans), like :

- **Speed regulator** : Regulation through an internal Manual Control (MIN-Out%) or an External Remote Control 0-10V (potentiometer)
- **Thermoregulator** : Temperature and Pressure regulation (Ventilated Heat-exchanger of air cooled condensers or Dry coolers), Pressure of differential air flow (Laminar Flow Systems), etc.

OPERATING CHARACTERISTICS OF THE MODELS

ALL-in-ONE (Master-Slave) : The VAC output change in order to keep the measured value by the trasducers at the Set-point (inside the proportional band Pb). There are 4 different MASTER-SLAVE inputs configurations defined in factory (standard) for mA-Vdc-NTC probes.

All the MASTER versions have always the 0-10Vdc input (n. 3 inputs for MASTER + n. 1 input for SLAVE 0-10Vdc remote signal)

SLAVE-ONE (Power Unit) : The Vac output is controlled by a 0-10 V or PWM Remote control signal.

There are 2 SLAVE versions : **SP** (with 0-10Vdc input signal) & **SV** (with PWM input signal).

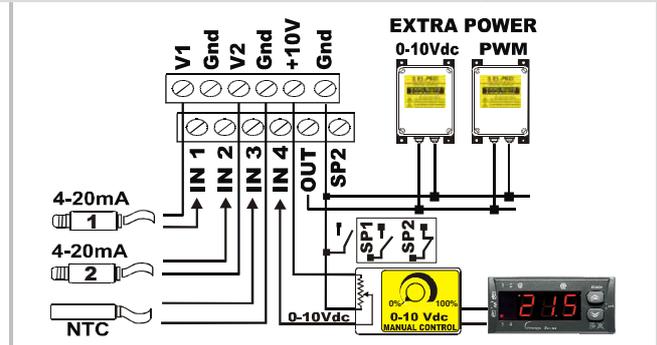
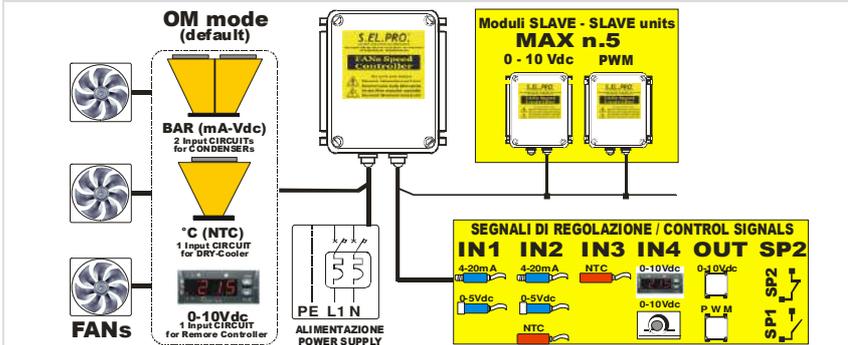
PROTECTIONS

- EMC integrated mains filter according to EN 61300-3 : appliances directly connected to low voltage power mains.
- SURGE arrester protection according to EN 61000-4-5 :Over-voltage category II (4 KV)
- Electrical insulation between the driving input and the parts having the supply voltage
- Complete Galvanic separation between the Power supply network and the driving input



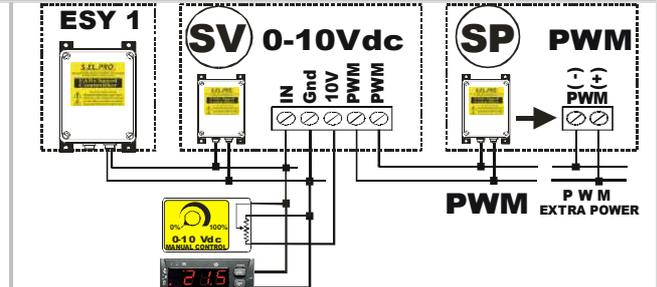
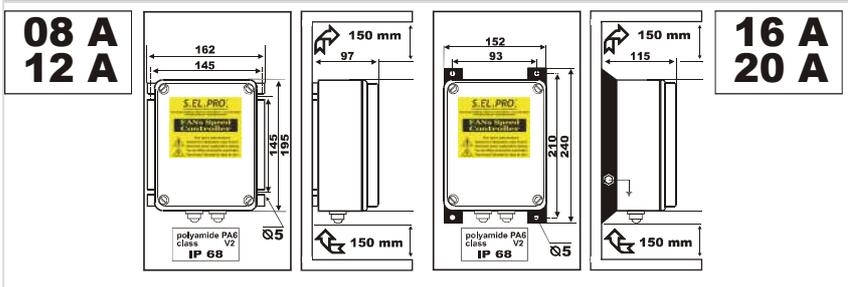
ALL-IN-ONE AVAILABLE INPUTS CONNECTIONS

(*) OM CONFIGURATION (DEFAULT)



MECHANICAL DIMENSIONS

SLAVE-ONE INPUTS CONNECTIONS



ELECTRICAL DATA

MECHANICAL DATA

POWER SUPPLY	230VAC +/- 10% 50Hz	POWER CONTROL CIRCUITS	3 VA	PLASTIC CASEMENT	120°C	IP	IP 55
RATED CURRENT	8 A (RMS @ 50°C)	POWER THERMALLY DISSIPATED	1,4 Watt x Amp	WORKING °C		-20 T 50	
	12 A (RMS @ 50°C)	ENVIRONMENTAL POLLUTION	Low Pollution	STORAGE °C		-30 T 85	
	16 A (RMS @ 50°C)	INSULATION CHARACTERISTICS	4000 VAC	UR% NOT CONDENSING		85%	
	20 A (RMS @ 50°C)	EMC COMPLIANCE	PDS SYSTEM	AGEING CHARACTERISTICS (h)		60.000	

INPUTS AVAILABLE	MODE OM (*)	MOD. OV	MOD. OX	MOD. OB	MOD. SV	MOD. SP	REGULATIONS AVAILABLE
SIGNAL INPUTS	IN1	4-20 mA	0-5 VDC	4-20 mA	4-20 mA	0-10VDC	SET POINT (DETENT SWITCH SETTING)
	IN2	4-20 mA	0-5 VDC	NTC	0-5 VDC		SET POINT ADJUSTMENT (DETENT SWITCH SETTING)
	IN3	NTC	NTC	NTC	NTC		MIN-OUT / CUT-OFF FOR RPM% LIMIT
	IN4	0-10VDC	0-10VDC	0-10VDC	0-10VDC		MAX OUT FOR RPM% LIMIT

OUTPUT	AUX. POWER SUPPLY	24v / 40 mA	10v / 10 mA	5v / 10 mA	PREDISPOSITIONS (PRESETTING)
SIGNAL OUTPUTS	SIGNALS	0-10VDC FOR SLAVE UNIT OF EXTRA POWER (MAX. 5)			RPM SELECTION AT SET-POINT : MIN or MAX RPM%
		PWM FOR SLAVE UNIT OF EXTRA POWER (MAX. 5)			MIN LIMIT MODE SELECTION : CUT-OFF or MIN-OUT
FACTORY OPTIONS	TYPE				REGULATION MODE SELECTION : DIRECT / REVERSE
DOUBLE SET POINT SELECTION BOARD (CARD FOR SET POINT 1 - SET POINT 2)	PB 1092/A				SELECTABLE OUTPUT CONTROL SIGNAL
ACCESSORIES	TYPE				0-10 Vdc / PWM net signal for EXTRA- Slave Power
FILTER NOISE SUPPRESSOR	NTF100				VISUALIZATIONS
EXPANSION CONTROL INPUTS UNIT	MEI-4				LED POWER-SUPPLY -ON
MANUAL CONTROL 1-TURN OR 10-TURNS POTENTIOMETERS	PB1034 - PB1052				LED SENSOR SIGNAL UNDER SET-POINT
10/24 VAC CONVERTER FOR 0-10VDC MANUAL CONTROL	PB1035				LED SENSOR SIGNAL OVER SET-POINT
					LED SELECTED SET 1 - SET 2



The POWERS Team for Friendly SOLUTIONS