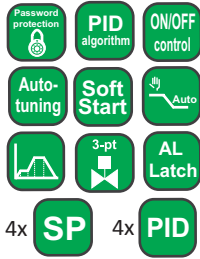
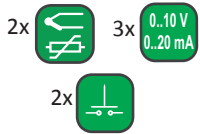


# RE19 CONTROLLER

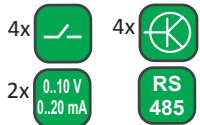
## FEATURES:



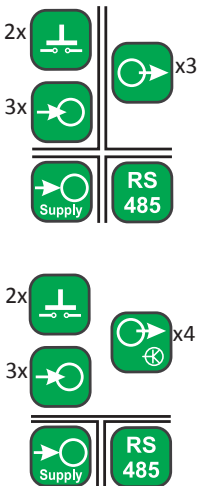
## INPUTS:



## OUTPUTS:



## GALVANIC ISOLATION:



### Contact Details:

Rishabh Instruments Pvt Ltd  
F-31, MIDC, Satpur  
marketing@rishabh.co.in  
INDIA

Phone: +91 253 2202028

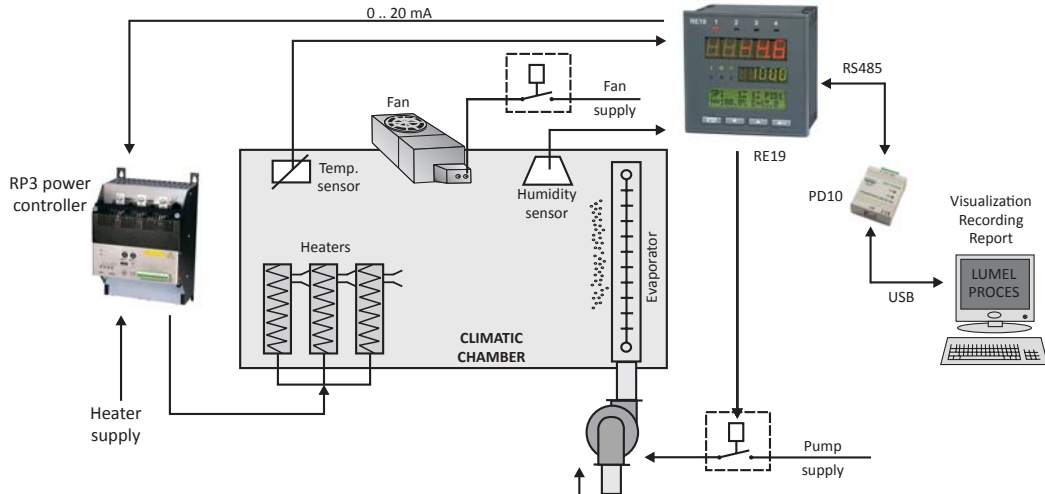
exp.marketing@rishabh.co.in  
marketing@rishabh.co.in

www.rishabh.co.in



- 2 main inputs: universal (temperature sensors and standard signals).
- 2 logic inputs.
- Additional input and RS-485 (in option).
- 4 outputs (control and alarm): relay, transistor, or continuous in option.
- Control: PID with auto-tuning, on/off.
- Programmable control (15 programs of 15 intervals) (in option).
- Step-by-step control (in option).

## EXAMPLE OF APPLICATION



Temperature and humidity control in a climatic chamber.

## INPUTS

Input type	Range	Error	Additional error
<b>Universal main input</b>			
Pt100	-200 .. 850°C	0.1%	Compensation of wire resistance changes in 3-wire connection: < 0.1%
Pt500	-200 .. 850°C	0.1%	
Pt1000	-200 .. 850°C	0.1%	
Ni100/1.617	-60 .. 180°C	0.2%	Compensation of thermocouple reference cold junction: < 2°C
Cu100/1.426	-50 .. 180°C	0.2%	
Fe-CuNi (J)	-200 .. 1200°C	0.2%	
Cu-CuNi (T)	-100 .. 400°C	0.2%	Ambient temperature change: ≤ 0.1% / 10 K
NiCr-NiAl (K)	-200 .. 1370°C	0.1%	
PtRh10-Pt (S)	-50 .. 1760°C	0.2%	
PtRh13-Pt (R)	-50 .. 1760°C	0.2%	(*) error for the thermocouple B concerns the range: 500 .. 1820°C
PtRh30-PtRh6 (B)	300 .. 1820°C	0.3%*	
NiCr-CuNi (E)	-200 .. 1000°C	0.1%	
NiCrSi-NiSi (N)	-150 .. 1300°C	0.1%	
Current (I)	0 .. 20 mA, 4 .. 20 mA	0.05%	
Voltage (U)	0 .. 5 V, 0 .. 10 V, 1 .. 5 V	0.05%	
<b>Additional input</b>			
Current (I)	0 .. 20 mA, 4 .. 20 mA		Ambient temperature change: ≤ 0.1% / 10 K
Voltage (U)	0 .. 5 V, 0 .. 10 V, 1 .. 5 V		
Resistance (R)	0 .. 100 Ω		
Logic input		voltageless	

## OUTPUTS

Output type	Properties	Remarks
Relay	2,3 or 4 outputs	switching contacts 5 A/ 230 V
OC transistor	2,3 or 4 outputs	U <sub>max</sub> =24 V, I <sub>max</sub> = 20 mA
Voltage transistor	1 or 2 outputs	0/15 V (I <sub>max</sub> =20 mA)
Continuous voltage	1 or 2 outputs	0..5 V, 0 .. 10 V, R <sub>load</sub> ≥ 500 Ω
Continuous current	1 or 2 outputs	0 ..20 mA, 4 ..20 mA, R <sub>load</sub> ≤ 500 Ω

## DIGITAL INTERFACE

Interface type, protocol	Properties	Remarks
RS-485, MODBUS RTU/ ASCII	ASCII - 8N1, 7E1, 7O1, RTU - 8N2, 8E1, 8O1, 8N1	2400, 4800, 9600, 19200 bit/s

Readout field	LED 10 mm, 5 digits LED 10 mm, 5 digits LCD 2 x 16 characters	
Overall dimensions	96 × 96 × 81 mm	
Weight	< 0.4 kg	
Protection grade	from frontal side: IP40	from terminal side: IP20

### RATED OPERATING CONDITIONS

Supply voltage	85 .. 253 V a.c./d.c., 18 .. 30 V d.c.	frequency: 40 .. 50 ... 440 Hz
Temperature	ambient: 0...23...40°C	storage: -20...70°C
Humidity	< 85%	without condensation
Operating position	any	
External magnetic field	< 400 A/m	

### SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Pollution level	2	
Installation category	III	
Maximal phase-to-earth operating voltage	for supply circuit, relay outputs: 300 V	for input circuits, interface, continuous and transistors outputs: 50 V
Altitude above sea level	up to 2000 m	

### CONNECTION DIAGRAM

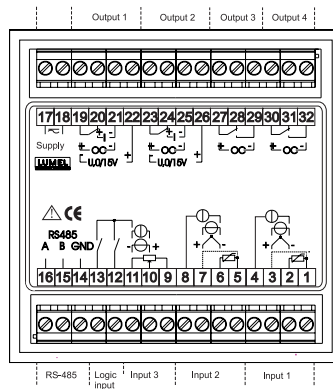


Fig. 1 View of controller terminal strips.

### ORDERING

RE19 -	X	X	X	X	X	X
<b>Version:</b>						
constant-valued control	S					
step-by-step control	V					
programmable control	P					
as per order	X					
<b>Additional input:</b>						
without input	0					
current: 0/4..20 mA	1					
voltage: 0..10 V, 0..5 V, 1..5 V						
potentiometric transmitter: 100 Ω	2					
potentiometric transmitter: 1000 Ω						
as per order	X					
<b>Outputs:</b>						
4 relays	1					
4 OC transistors	2					
1 transistor 0/15 V + 3 relays	3					
2 transistor 0/15 V + 2 relays	4					
1 continuous + 3 relays	5					
1 continuous + 3 transistors OC	6					
2 continuous + 2 relays	7					
2 continuous + 2 OC transistors	8					
1 continuous + 1 transistor 0/15 V + 2 relays	9					
as per order	X					
<b>Interface RS-485:</b>						
without interface	0					
with MODBUS protocol	1					
<b>Supply:</b>						
85..253 V a.c./d.c.	1					
18..30 V d.c.	2					
<b>Additional quality requirements:</b>						
without additional quality requirements	8					
with an extra inspection quality certificate	7					
acc. to customer's request*	X					

#### Order example:

The code: **RE19 - S - 1 - 1 - 1 - 2 - 8** means:

- RE19** - controller of RE19 type
- S** - version: constant-valued control
- 1** - current input: 0/4 .. 20 mA
- 1** - outputs: 4 relays
- 1** - interface RS-485 with MODBUS protocol
- 2** - supply: 18 .. 30 V d.c.
- 8** - without additional quality requirements.

\* - after agreeing with the manufacturer

#### SEE ALSO:



SSR relay of LU series.



Power controllers of RP series.



Temperature sensors.



Interface converter (USB/RS-485) - PD10.



[www.rishabh.co.in](http://www.rishabh.co.in)

For more information about **RISHABH** products please visit our website: [www.rishabh.co.in](http://www.rishabh.co.in)

#### Contact Details:

Rishabh Instruments Pvt Ltd  
F-31, MIDC, Satpur  
[marketing@rishabh.co.in](mailto:marketing@rishabh.co.in)  
INDIA

Phone: +91 253 2202028

[exp.marketing@rishabh.co.in](mailto:exp.marketing@rishabh.co.in)  
[marketing@rishabh.co.in](mailto:marketing@rishabh.co.in)

[www.rishabh.co.in](http://www.rishabh.co.in)