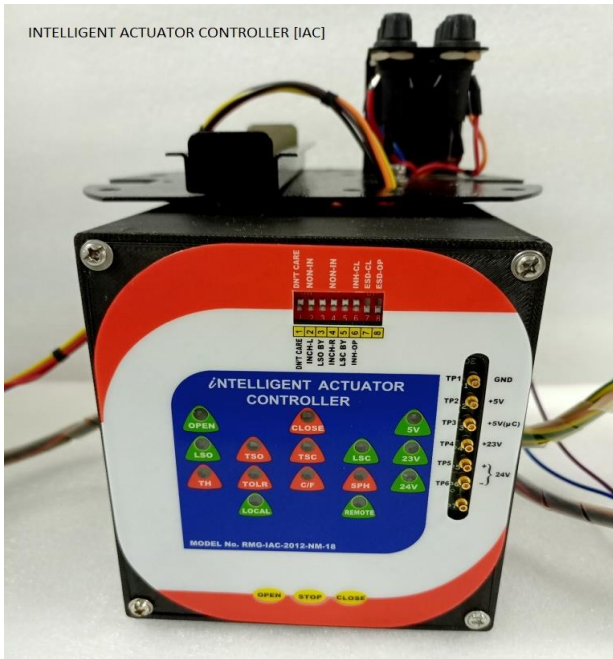


INTELLIGENT ACTUATOR CONTROLLER

MODEL : RMG-IAC- 2012



SALIENT FEATURES

1. Micro Controller based.
2. Programmable control logic.
3. Advanced design supporting various safety and operational features of the modern day electric actuators.
4. Adaptable for both ON/OFF duty and Modulating duty operations.
5. Auto phase correction.
6. Miniature modular construction.
7. Unique 'Single Phasing Protection' Circuitry.
8. Good di-electric strength.
9. Potential free contacts [relay contacts] and LED indications for collective fault annunciations and status annunciations.
10. 2 line-16 characters LCD display for modulating duty operation [optional].
11. Additional 24V DC/150mA isolated source is provided for field use.
12. Single phase [230/110VAC] supply for space heater.
13. Operates over a wide temperature range.
14. Rugged engineering design and packaging.
15. User friendly controls.
16. Size, layout and profile of the module can be suited to the enclosure used by the customer. Specific custom-built features on request.

DESCRIPTION

As the name suggests, the **INTELLIGENT ACTUATOR CONTROLLER**, RMG-IAC-2012, has been designed to provide the intelligent Control Electronics that is required for the next generation Electric Actuators. This microcontroller-embedded unit incorporates state-of-the-art electronic controls with field configurable features. It is modular in construction, facilitating ease of assembly and service. It has two modules with separate functions, though interdependent, namely POWER MODULE CUM CABLE TRAY and CONTROL ELECTRONIC MODULE.

The POWER MODULE CUM CABLE TRAY receives the 3 phase supply from the AC mains and generates both AC and DC voltages required for the actuator and the electronics.

The CONTROL ELECTRONIC MODULE which embeds the micro controller has LED status indicators, DIP switches, trim pots and electronic circuitry to control and manipulate various operations of the Actuator- be it function related, safety related or field-specific. Added to that is the provision for customization and feature-scalability as required by the Actuator manufacturers in order to build versatility into their products.

With RMG IAC, the degree of versatility that could be achieved by the Electric Actuators is truly phenomenal.

APPLICATIONS

Electric motor / Actuator control in process industry.

SPECIFICATIONS

Sl.No	Characteristics	Specified Value
1	Mains Operating Voltage	• 415±25% 3 phase supply
		• 230V AC±15% (Optional)
		• Other voltages on request
2	Operating Mode	▪ ON/OFF Mode
		▪ Local Mode
		▪ Remote Mode
		▪ Modulating Mode
		○ Current Version (4-20mA)
		○ Voltage Version (1-5V DC)
3	Motor Drive	❖ Reversing Contactor Drive (Standard) ❖ Thyristor Drive (Optional)
4	Operating Temp.Range	-20°C to +70°C
5	Built-In Protection	
	• Through Fuse	Slow Blow Fuses in the Primary of the Transformer, Control Supply And Space Heater Supply.
	• Single Phasing	Loss of any one phase of the main's 3phase power would trip the running Actuator and trigger the annunciation display.
	• Phase Correction facility	Irrespective of the sequence of input phases, the Actuator runs in the desired pre-set OPEN/CLOSE directions.
CONTROLS AND SWITCHES		
6	LOCAL 'OPEN'-'STOP'-'CLOSE' Switches(InBuilt)	Operates Actuator in OPEN and CLOSE direction or stops the Actuator depending on the selected command in LOCAL Mode.
7	REMOTE 'OPEN'-'STOP'-'CLOSE' Switches (Isolated Signal from Internal Source or External Source)	Operates Actuator in OPEN and CLOSE direction or stops the Actuator depending on the selected command in LOCAL Mode.
8	COMMAND Signal	In MODULATING Mode, enables the Actuator to move to OPEN and CLOSE directions.
9	FEEDBACK Signal	In Modulating Mode, Actuator gives out potential-free contacts OR 4-20mA OR 1-5VDC as Feed Back signal, corresponding to the position of the Actuator under operation.
10	Limit Switch Open /Limit Switch Close	Stops the Actuator, when valve reaches its position either OPEN or CLOSE.
11	Torque Switch Open/Torque Switch Close	Stops the Actuator, by tripping as soon as the set torque is crossed in the Actuator.
12	Thermal Switch	Stops the Actuator, when the Thermal Switch trips due to excess Temperature in the Actuator windings.

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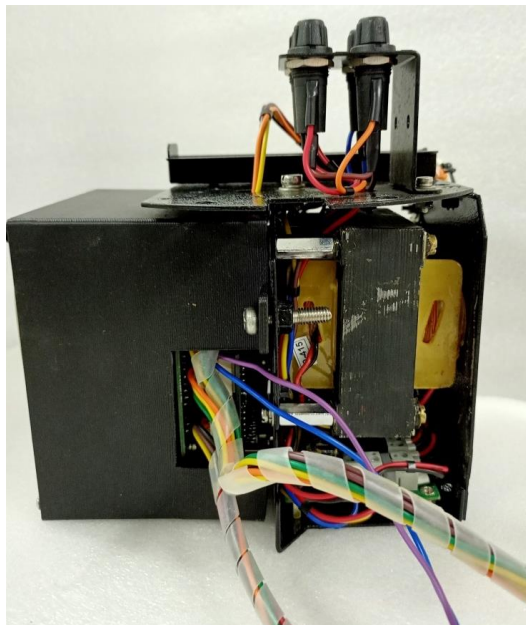
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13	Thermal Overload Relay	Stops the Actuator, when the Thermal Overload Relay trips due to overload.
14	Selector Switch	Selects the mode of operation either LOCAL/REMOTE
15	LSO and LSC Bypass Switch	These Dip Switches are used to bypass the Limit Switches where OPEN or CLOSE actions are required by activating the respective Torque Switches.
16	Inching/ Non Inching	This Dip Switch is used to select the Actuator running in either Retaining or Non Retaining Mode.
17	Voltage/Current Version	This Dip Switch is used to determine the type of FEEDBACK Signal required in the Modulating Mode.
18	Fail Open/Fail Close	This Dip Switch is used to enable the Actuator to STOP or STAY OPEN or STAY CLOSED whenever the FEEDBACK signal or COMMAND signal fails.
19	ON-OFF For Modulating	This Dip Switch is used to enable the selection of operation either in ON-OFF Mode or MODULATING Mode.
20	Emergency Shutdown	Pre selected optional settings to enable the Actuator to run in OPEN or CLOSE direction; otherwise to stop on an Emergency Shutdown condition.

IN ADDITION TO THESE, WE DESIGN AND MANUFACTURE IAC AS PER SPECIFIC CUSTOMER REQUIREMENTS/SPECIFICATIONS



SIDE VIEW

Note1: Due to continuous product improvement initiatives, specification is subject to change.

Note2: Images provided are for indicative purpose only. Accessories shown are not part of standard supply.

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