

INTELART

IM230 V1.0

Relay output Module

User Manual

www.intelart.ir

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Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury will result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury may result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

Qualified personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions.

Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems

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1 Technical Specifications

1.1 Hardware Parameters

The following table specifies the hardware information of the module.

Table 1 Hardware parameters

Digital Outputs	Outputs count	8
	Type of digital output	Isolated relay
	Rated operating voltage	24V
	Contact resistance	Max. 100 mΩ
	Nominal switching capacity (resistive load)	5A 277V AC
	Max. switching power (resistive load)	1,385VA
	Max. switching voltage	277V AC
	Max. switching current	5A
	Insulation resistance	Min. 1,000MΩ (at 500V DC)
	Breakdown voltage Between open contacts	750 Vrms for 1 min
	Breakdown voltage Between contact and coil	4,000 Vrms for 1 min
	Delay time from "1" to "0"	Max. 10 ms
	Delay time from "0" to "1"	Max. 10 ms
	Max. operating speed	20 cpm
	Expected life	Min. 2×10 ⁵ (5A 125V AC at rated load), Min. 10 ⁵ (5A 250V AC at rated load)
Stop action support	Yes. Shut Down, Keep Last Value, Output 1	
Dimensions	Width	30mm
	Height	102mm
	Depth	58mm
	Storage temperature	-15 to 75 °C

Ambient Conditions	Operating temperature	0 to 55 °C
Miscellaneous	Weight	?
	Power LED	Yes. Green LED
	Diagnostic LED	Yes. Yellow LED

2 Configurations

2.1 Digital Outputs

The outputs of the module have no alternate function.

2.1.1 Stop action

Each output channel has a property named “StopAction” which determines the act of channel when PLC state changes to stop mode.

3 Address Space

The value of input channels and output channels and some configurations will be accessible via an address space. There are bunch of predefined mapped tags in order to read or write a value in the address space. The following table illustrates the type and purpose of each mapped tag.







Table 2 Mapped tags of parameters in the address space

Category	Name	Data Type	Address	Function
Input Space (I)				
Diagnose	DiagInfo	WORD	%IW0	Gets all diagnostic information when the module is in RUN mode. <ul style="list-style-type: none"> • Bit 0: Power supply missing • Bit1- Bit15: Reserved
Output Space (Q)				
Digital Outputs	DQ00 ⋮ DQ07	BOOL	%Q0.0 ⋮ %Q0.7	Sets or gets the value of channel
	DQ00_07	BYTE	%QB0	A wrapper to get all output channel values as a byte

4 Diagnostic and Wiring

The module has 2 LEDs indicating the status of module. The following table explains the combination of these two LEDs state.

Table 3 Combination of "POWER" and "MAINT" LEDs

LED		Indicating	Solution
POWER	MAINT		
 Off	 Off	Power missing or hardware failure.	<ul style="list-style-type: none"> • Check the main power supply • Verify that the module is installed correctly
 On	 On	The module is configured and is in RUN mode.	--
 On	 Flashes	Indicates an error (communication error, configuration error etc.)	<ul style="list-style-type: none"> • Verify that the module is installed correctly

The following block diagram shows you information about wiring of the module.

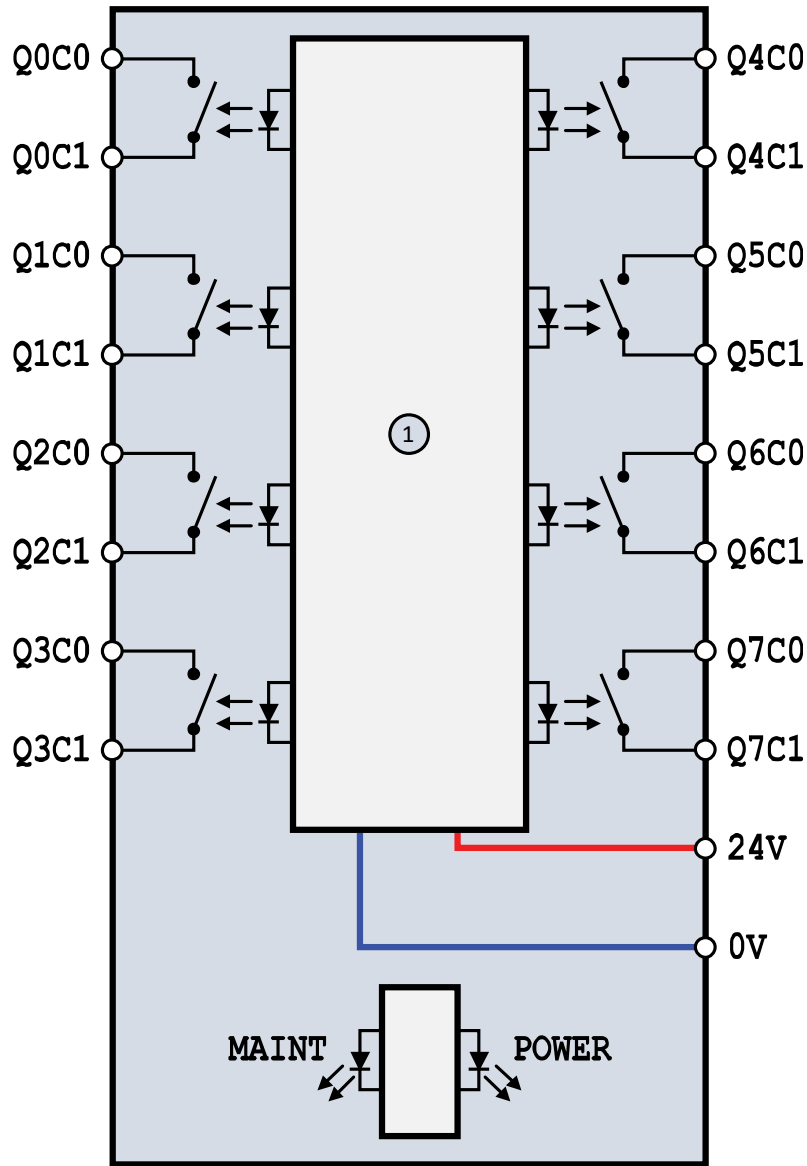


Figure 1 Wiring diagram and terminal assignments

- | | | | |
|---------------|---------------|---------------|------------------------|
| 1 | Relay outputs | QxCx: | Relay contact terminal |
| POWER: | Power LED | MAINT: | Maintenance LED |

5 Dimensional drawing

The dimensions of the module are available in this section. For install the module and its main device follow the below dimensional drawing.

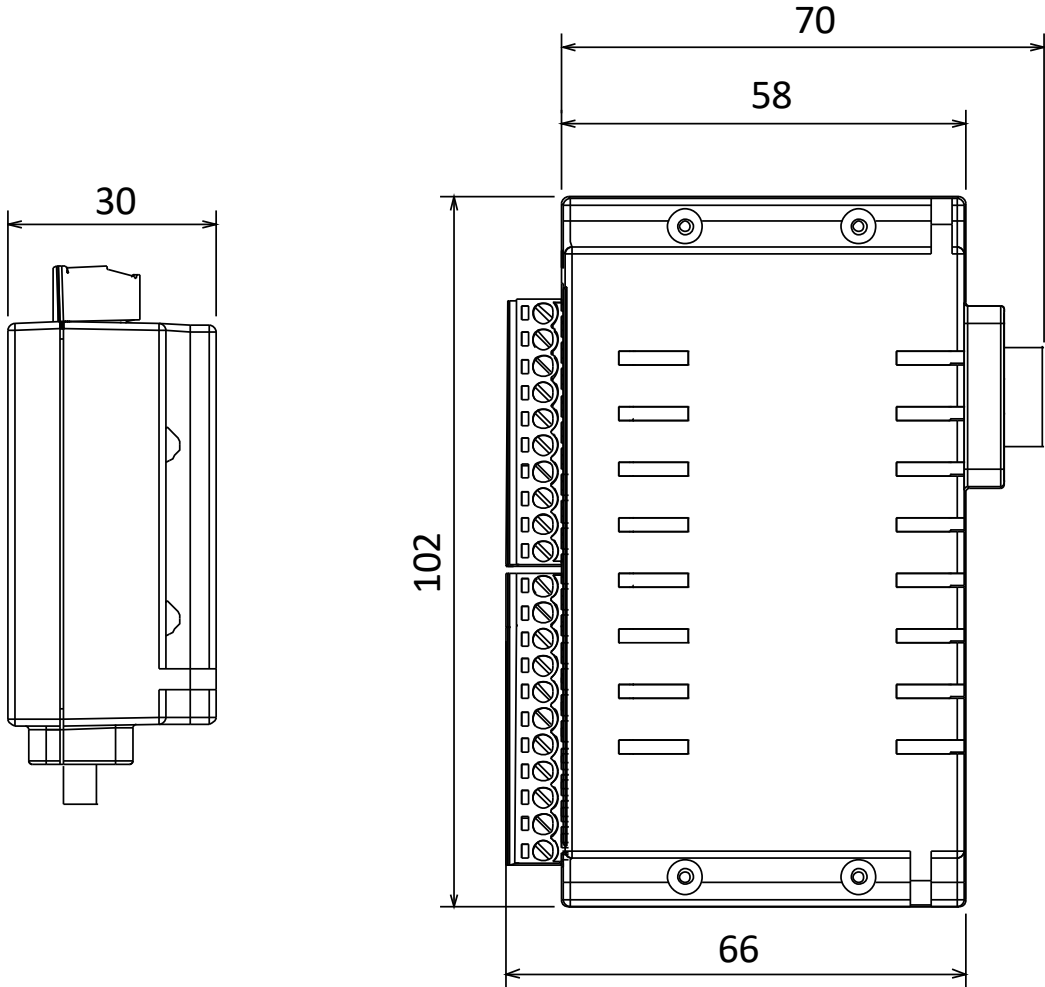


Figure 2 Dimensional drawing of IM230 module