

ROAD SIGNAL OUTPUT RSO 4

INTRODUCTION

RSO 4 is a 4-channel AC output unit primarily designed for control of traffic light signals (heads) in traffic control systems: intersections, tunnels, toll stations, parking sites, construction sites etc. Supported are all types of common traffic heads (semaphores): standard light bulbs (up to 200W), halogen lamps with transformers and LED traffic lights (with currents as low as 5 mA).

Each output is independently monitored for voltage and current. The voltage range is up to 290V AC with resolution 0.1 V. The current measurement range is up to 1A with 1 mA resolution. Both measurements can be used for safe and accurate determination of various failure modes of traffic signal (bulb failure, output failure, foreign voltage...).

A powerful micro controller inside RSO 4 unit is used for communication with CAN and RS-485 bus. An open and fully documented protocol is implemented for EN50556-compliant safe use in road traffic signal systems. Alternatively, Modbus RTU or similar may be implemented as option.

Up to 24 modules (with 96 outputs) may be controlled on a single RS-485 channel. There is no inherent limitation on a number of communication channels which can be used in system.

The module is EN 50556 certified for safe use in road traffic signal systems.

RSO 4 has built-in standalone special variants, such as flashing unit in master-slave configuration with fault indication.

The module may also be used as a general purpose AC output unit with current and voltage measurement for various low-current applications, such as low power motor drives, lightning, home automation controllers, machine automation controllers, etc.



RSO 4 is a 4-channel AC output unit primarily designed for control of traffic light signals (heads) in traffic control systems.

APPLICATIONS

- Traffic controllers
- Tunnel automation controllers
- Toll station lane controllers
- Parking lot and garage controllers
- Intelligent traffic systems (ITS)
- Flashing unit in master-slave configuration
- Motor control
- Lightning control

FEATURES

- Certified for EN 50556 (Traffic Control Systems)
- 4 isolated traffic light output channels
 (1 signal head + auxiliary output)
- Voltage & current measurement for each channel
- Dimming support
- RS-485 / optional CAN communication
- 1500 V isolation for control system
- Standard DIN rail form
- 2 connectors on cold side for daisy chaining
- Low cost
- RoHS compliant

SPECIFICATIONS

Digital ouputs I (SYNC)	Communication	
Protocol OpenRSO, Modbus RTU (optional) Address selection 0 99 (2 rotary decimal switches) Outputs Number of channels 4 Voltage measurement 0 - 290 V AC (50Hz), 5% Current measurement 0 - 1 A 5%, 2A 10% Power measurement 0 - 290 W, 5% Output type solid-state Current capability (per module) 2A sustained, 2.5A max. Current capability (per output) 0.5A sustained if all outputs are simultaneously active HOT side (AC interface) Voltage measurement 0 - 290 V AC (50Hz), 5% Fuse protection Yes, 2.5 A COLD side (controller interface) Voltage 24V DC, regulated Power consumption 2.5 W max. Digital inputs 2 (FAIL and SYNC) Digital ouputs 1 (SYNC) LED indicators 4 (red, yellow, green, blue) Isolation to hot side 1000 V Mechanical Dimensions Installation DIN rail mounting Moving parts none (ex. screw terminals) Environment Operating temperature -25 +75°C	Interface	RS-485
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Moving parts none (ex. screw terminals) Environment Operating temperature -25 +75°C	Dimensions	
Environment Operating temperature -25 +75°C	Installation	DIN rail mounting
Operating temperature -25 +75°C	Moving parts	none (ex. screw terminals)
	Environment	
Humidity 5 95% non-condensing	Operating temperature	-25 +75°C
	Humidity	5 95% non-condensing

COLD connector pinout		
1	+24V	
2	GND	
3	RS-485 B	
4	RS-485 A	
5	CAN L	
6	CAN H	
7	FAIL*	
8	SYNC*	

НОТ	HOT connector pinout		
	L		
2	N		
3	Out R		
4	Out Y		
5	Out G		
6	Out AUX		





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