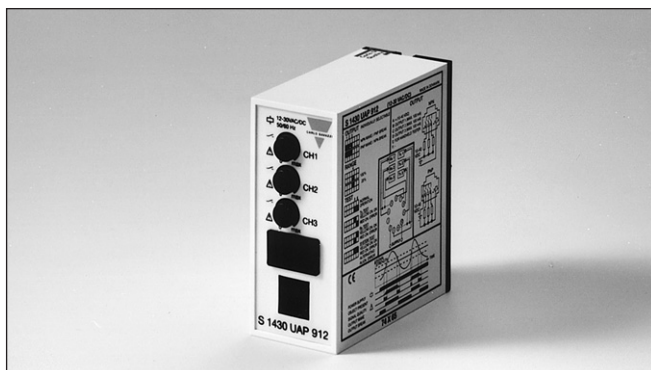


Photoelectrics Amplifier, μ -Processor Controlled Type S1430 ROS, 3 Inputs/3 Double Relay Outputs

CARLO GAVAZZI



- μ -Processor controlled
- Amplifier unit for 3 sets of photoelectrics
- 3 independent outputs with 2 x Relay SPDT connected in series, Make switching function
- Self-diagnostic functions
- Alignment failure indication
- Multivoltage 15 to 30 VAC/DC
- Modulated and synchronized light
- Adjustable sensitivity for each channel
- LED indications: supply, outputs, signal quality
- 11-pin plug-in housing



Product Description

μ -Processor controlled amplifier for 3 sets of photoelectric sensors, type MOFTR, MKFTR, MIFTR or MHFTR. Utilising an 11-pin circular plug for easy connection. Relay outputs (NO) w. 2 relays in series connection.

Self-diagnostics for system test. Protected against reverse wiring or cross talk from adjacent photoelectrics. Multi-voltage power supply. Sensitivity is individually adjustable for each set of photoelectrics.

Ordering Key

S14 30 ROS 915

Type _____
Special function _____
Output type _____
Power supply _____

Type Selection

Plug type	Ordering no. Supply: 15 - 30 VAC/DC
Circular, 11 pins	S 1430 ROS 915

Specifications

Rated operational voltage (U _B)		13.5 to 33 VDC 13.5 to 33 VAC, 45 to 65 Hz use power supplies from SS120-series	Supply to photoelectric switch		7 V square wave ≤ 300 mA short-circuit protected 10 Ω Rx1: Pin 4 Rx2: Pin 7 Rx3: Pin 8 Shield: Pin 5 (common) 5 VDC 10 mA 470 Ω • 2 ranges, DIP-switch selectable - low sensitivity (25%) - high sensitivity (100%) • Sensitivity adjustment with 270°: Turn knob on CH 1, 2, 3 • Maximum range indicated on photoelectric switch data sheet in high sensi- tivity range only • Operation within low sen- sitivity range, increases ambient light and cross- talk immunity
pins 2 & 10	DC		Emitter (cont.)		
	AC		Supply voltage (open loop)		
115 or 230 VAC		Current			
		Output resistance			
		Receiver			
		Supply voltage (open loop)			
		Short-circuit current			
		Input resistance			
Rated operational power					
AC supply		5 VA			
DC supply		5 W			
Power ON delay (t _v)		< 300 ms			
Output					
Contact Rating (AgCdO)					
Resistive loads	AC 1	1.5 A/100 VAC			
	DC 1	1.5 A/30 VDC			
Small induc. loads	AC 15	1.5 A/100 VAC			
	DC 13	1.5 A/30 VDC			
Mechanical life (typical)		≥ 20 x10 ⁶ operations at 18000 imp/H			
Electrical life (typical)		≥ 300000 operating at 220 VAC - 2 A resistive load			
Output function		Relay Make function			
Protection, outputs		Reverse polarity, short-circuit, transients			
Supply to photoelectric switch					
Emitter		Tx1: Pin 1 Tx2: Pin 9			



Specifications (cont.)

Operating frequency (f) Light/dark ratio 1:1	12.5 Hz
Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	30 ms 30 ms
Indication Supply ON Output ON Signal quality	LED, green LED, yellow LED, red
Environment Overvoltage category Degree of protection Pollution degree	III (IEC 60664) IP 20 (IEC 60529, 60947-1) 3 (IEC 60664/60664A, 60947-1)
Temperature Operating Storage	-20° to +50°C (-4° to +122°F) -50° to +85°C (-58° to 185°F)
Weight	150 g
Approvals	CSA
CE-marking	Yes

Truth Table

	Make switching		
Object present	Yes	No	No
Dirt on lenses, misaligned or sensitivity too low	--	No	Yes ¹⁾
Output LED yellow	OFF	ON	ON
Level LED red	OFF	OFF	ON or flashing
Output	OFF	ON	ON

¹⁾ Under normal operating conditions, the red level indication LED has to be OFF. The level indication LED will turn on shortly each time an object enters or exits the sensing zone, even if the photoelectric switch is correctly installed and adjusted.

Procedure for Test Functions (DIP-switch Selection)

Transmitter test (switch 1 in the up position)
When switch 1 is placed in the up position all yellow and red LED's on the front of the unit will flash simultaneously. Once the test is completed (approx. 3 scans) and a wiring fault is detected, such as reverse polarity or short-circuit, the transmitter that has the fault condition will be indicated by the red LED being continuously ON. If a fault condition is not existing then only the yellow LED will be ON. If a fault exists, correct the fault condition and then repeat the test, this will ensure proper wiring has been done. Always reset **switch 1** for normal operation of system when testing completed.

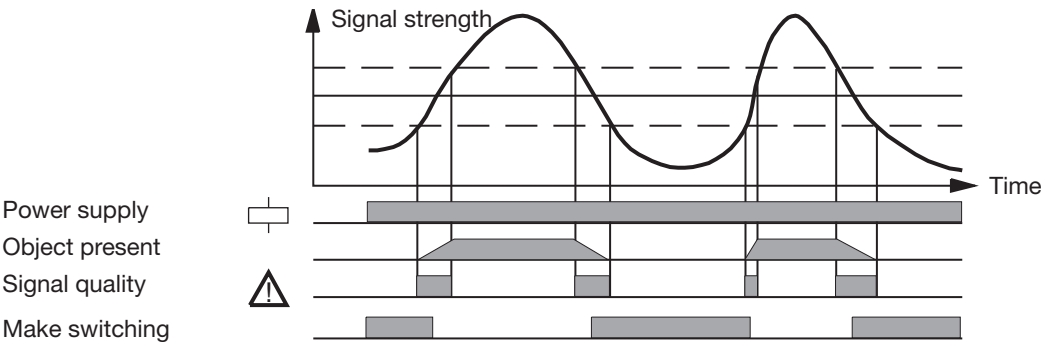
Receiver test (switch 2 in the up position)
When switch 2 is placed in the up position all yellow and red LED's on the front of the unit will flash simultaneously. Once the test is completed (approx. 3 scans) and a wiring fault is detected, such as reverse polarity or short-circuit, the receiver that has the fault condition will be indicated by the red LED being continuously ON. If a fault condition is not existing then only the yellow LED will be ON. If a fault exists, correct the fault condition and then repeat the test, this will ensure proper wiring has been done. Always reset **switch 2** for normal operation of system when testing completed.

Function test (switch 1 and 2 in the up position)
When switch 1 and 2 are both placed in the up position (simultaneously) the yellow and red LED's on the front of the housing will begin to flash simultaneously and then the LED's will

cycle from channel 1 to channel 2 and then to channel 3. Once the complete system scan is done the indication of the system condition will be displayed (see below). System test will continue until switch 1 and 2 are reset.

LED Indication		
Yellow LED ON Red LED OFF	}	System Test OK
Yellow LED ON Red LED ON	}	Tx's and Rx's mismatched, e.g. Rx3 seeing Tx1
Yellow LED OFF Red LED ON	}	Alignment error or beam obstructed by object

Operation Diagram



Dimensions

DIP-switch (located behind cover):

1: Test button, transmitters are transmitting, no short, wired correctly
 2: Test button, receivers are receiving, no short, wired correctly
 1+2 together: System test (transmitter and receiver)

SW 1 2

sw 1:

☐ Transmitter test.
Yellow ON: OK
Red ON: Error

☐ Normal operation

sw 2:

☐ Receiver test.
Yellow ON: OK
Red ON: Error

☐ Normal operation

sw 1+2:

☐ System test.
Yellow ON: OK
Red ON: Error
Both ON: Crosstalk

☐ Normal operation

Wiring Diagrams

ON sockets

1: Transmitter 1
 2: Supply (+ VDC)
 3: No connection
 4: Receiver 1
 5: GND (Receivers)
 6: Transmitter 3
 7: Receiver 2
 8: Receiver 3
 9: Transmitter 2
 10: Supply (- VDC)
 11: GND (Transmitters)

Output ing

A: } Output 1 (max. 30 VDC, 100 VAC, 1.5A)
 B: }
 C: } Output 2 (max. 30 VDC, 100 VAC, 1.5A)
 D: }
 E: } Output 3 (max. 30 VDC, 100 VAC, 1.5A)
 F: }

Wire colour coding

white
 black
 red
 green
 yellow
 blue

Test pins for contact verification is placed under Front cover.

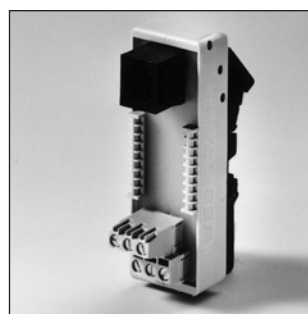
Accessories

- | | |
|----------------------------------|--------------------------|
| - 11 pole circular socket | S111, S111A, S411, ZPD11 |
| - Socket cover for S111 | BB1 |
| - Socket cover for S411 | BB4 |
| - Holding down spring | HF |
| - Mounting rack | SM13 |
| - Front panel mounting bezel | FRS2 |
| - Connection cable (2 plugs) | |
| 2 x 6/6 modular plugs | 2 x 6/6 mod. 2.0 m |
| - Power supplies for 115/230 VAC | SS120-series |
| - DIN-rail interface | 6IODC |

Delivery Contents

- | | |
|---------------------------|--------------------------|
| • Output connection cable | 1 m, 6 wires one plug |
| • Output connection cable | 0.2 m, 6 wires two plugs |
| • Amplifier | S 1430 ROS 915 |
| • DIN-rail interface | 6IODC |
| • Screw driver | |
| • Packaging: | Cardboard box |

Interface



6IODC
 DIN-rail interface
 (DIN EN 50 035, EN 50 022)
 output from plug to screw terminals