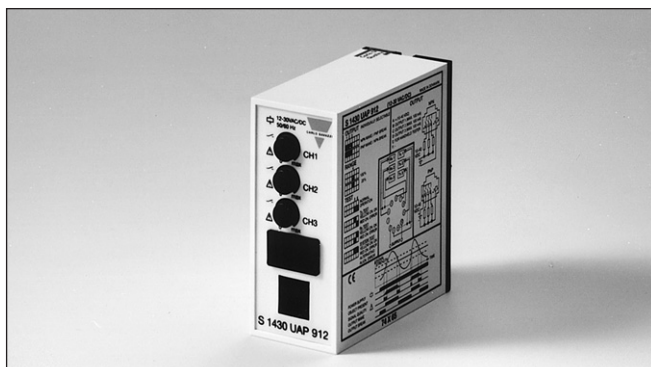


# Photoelectrics Amplifier, $\mu$ -Processor Controlled Type S1430 ROS, 3 Inputs/3 Double Relay Outputs

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- $\mu$ -Processor controlled
- Amplifier unit for 3 sets of photoelectrics
- 3 independent outputs with 2 x Relay SPDT connected in series, Make switching funktion
- 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

$\mu$ -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

<b>Rated operational voltage</b> ( $U_B$ )		
pins 2 & 10	DC	13.5 to 33 VDC
115 or 230 VAC	AC	13.5 to 33 VAC, 45 to 65 Hz use power supplies from SS120-series
<b>Rated operational power</b>		
AC supply		5 VA
DC supply		5 W
<b>Power ON delay</b> ( $t_v$ )		< 300 ms
<b>Output</b>		
<b>Contact Rating</b> (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)		$\geq 20 \times 10^6$ operations at 18000 imp/H
Electrical life (typical)		$\geq 300000$ operating at 220 VAC - 2 A resistive load
<b>Output function</b>		Relay Make function
<b>Protection, outputs</b>		Reverse polarity, short-circuit, transients
<b>Supply to photoelectric switch</b>		
<b>Emitter</b>		Tx1: Pin 1 Tx2: Pin 9

<b>Supply to photoelectric switch</b>		
<b>Emitter</b> (cont.)		
Supply voltage (open loop)		7 V square wave
Current		$\leq 300$ mA short-circuit protected
Output resistance		10 $\Omega$
<b>Receiver</b>		
		Rx1: Pin 4
		Rx2: Pin 7
		Rx3: Pin 8
		Shield: Pin 5 (common)
Supply voltage (open loop)		5 VDC
Short-circuit current		10 mA
Input resistance		470 $\Omega$
<b>Sensitivity</b>		
(% of $S_n$ )		<ul style="list-style-type: none"> <li>• 2 ranges, DIP-switch selectable</li> <li>- low sensitivity (25%)</li> <li>- high sensitivity (100%)</li> <li>• Sensitivity adjustment with 270°:</li> <li>Turn knob on CH 1, 2, 3</li> <li>• Maximum range indicated on photoelectric switch data sheet in high sensitivity range only</li> <li>• Operation within low sensitivity range, increases ambient light and cross-talk immunity</li> </ul>
Note:		



## Specifications (cont.)

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

## Truth Table

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

<sup>1)</sup> 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)

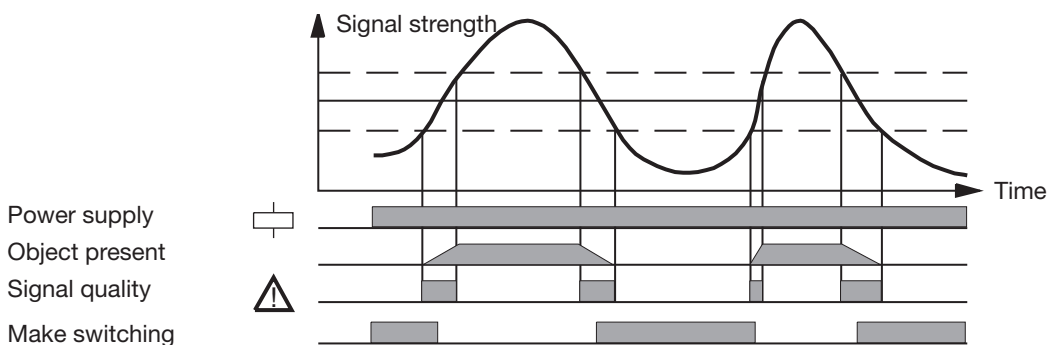
When switch 1 and 2 are both placed in the up position (simultaneously) the yellow and red LED's on the front of the housing will begin to flash simultaneously and then the LED's will

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	}	<b>System Test OK</b>
— Yellow LED ON △ Red LED ON		
— Yellow LED OFF △ Red LED ON	}	<b>Alignment error or beam obstructed by object</b>

## 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:

- 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: }

Test pins for contact verification is placed under Front cover.

**Wire colour coding**

- white
- black
- red
- green
- yellow
- blue

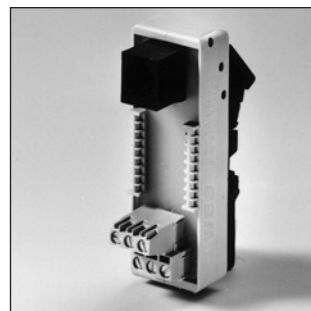
## Accessories

- 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