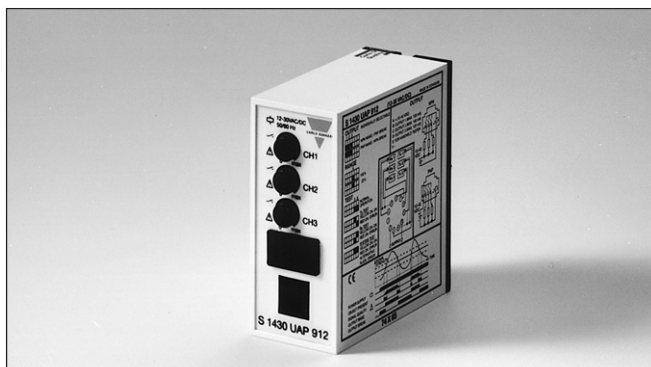


Photoelectrics Amplifier, μ -Processor Controlled Type S1430 RAL, 3 Inputs/3 Relay Outputs

CARLO GAVAZZI



- μ -Processor controlled
- Amplifier unit for 3 sets of photoelectrics
- 3 independent outputs with 1 x Relay SPDT, 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). Self-diagnostics for sys-

tem 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 RAL 915

Type _____
Special function _____
Output type _____
Power supply _____

Type Selection

Plug type

Ordering no.

Supply: 15 - 30 VAC/DC

Circular, 11 pins

S 1430 RAL 915

Specifications

Rated operational voltage (U_B)		Supply to photoelectric switch	
pins 2 & 10	DC	Emitter (cont.)	
	AC	Supply voltage (open loop)	
		Current	
Rated operational power		Receiver	
AC supply		Output resistance	
DC supply			
Power ON delay (t_v)			
Output			
Contact Rating (AgCdO)			
Resistive loads	AC 1	Supply voltage (open loop)	
	DC 1	Short-circuit current	
Small induc. loads	AC 15	Input resistance	
	DC 13		
Mechanical life (typical)		Sensitivity	
Electrical life (typical)		(% of S _n)	
		Note: • 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 sensitivity range only • Operation within low sensitivity range, increases ambient light and cross-talk immunity	
Output function			
Protection, outputs			
Supply to photoelectric switch			
Emitter			

Specifications (cont.)

Operating frequency (f) Light/dark ratio 1:1	12.5 Hz
Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF}) Multiplex cycle time	30 ms 30 ms 20 ms
Indication Supply ON Output ON Signal quality Multiplex activated	LED, green LED, yellow LED, red LED, yellow
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
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	

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 simultan-

eously 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 switches 1

LED Indication

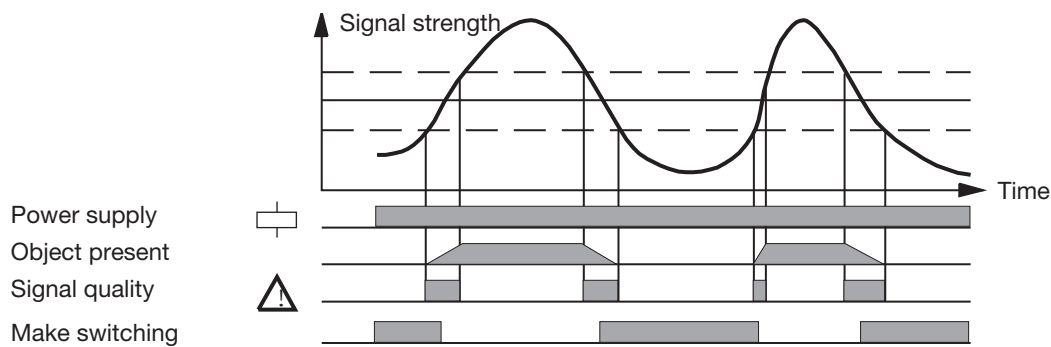
 Yellow LED ON  Red LED OFF	}	System Test OK
 Yellow LED ON  Red LED ON	}	Tx's and Rx's mismatched, e.g. Rx3 seeing Tx1
 Yellow LED OFF  Red LED ON	}	Alignment error or beam obstructed or by
 Yellow LED	}	When max. 3 amplifiers are linked the LED flashes

Multiplex Mode

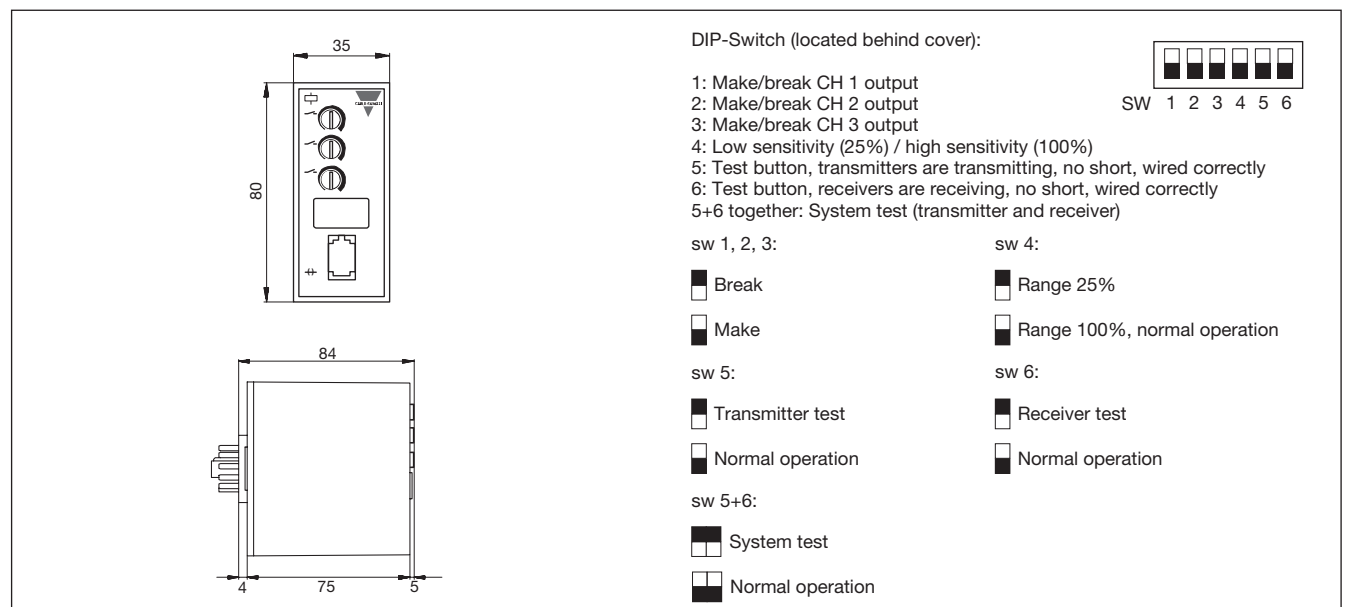
Multiplex mode is when having up to 3 amplifiers linked together via connection no. 3 in the 11-pole socket. The system activates amplifier no. 1 channel 1, 2 and 3. Then amplifier no. 2 channel 1, 2 and 3 and finally amplifier no. 3 channel 1, 2 and 3. Then back to amplifier no. 1 etc. Operat-

ing frequency in a multiplex system is divided with the number of amplifiers used. Response time in a multiplex system is multiplied with the number of amplifiers used. When working in a multiplex system the yellow LED flashes.

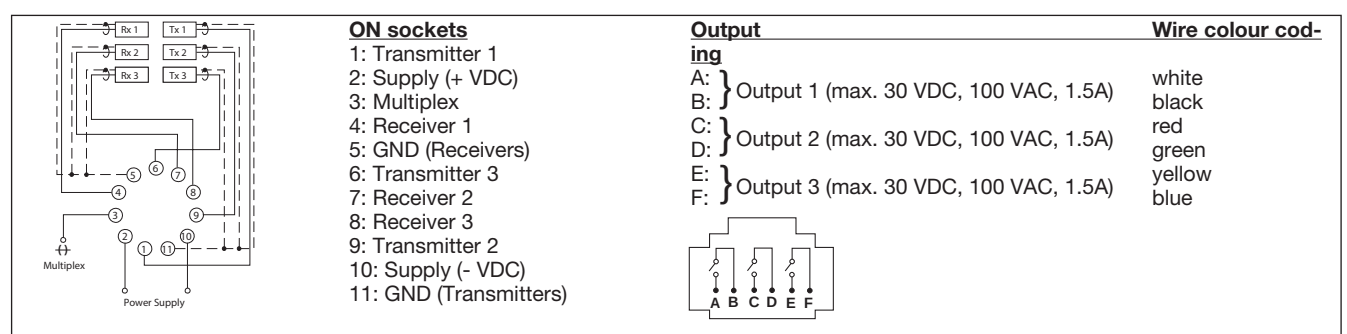
Operation Diagram



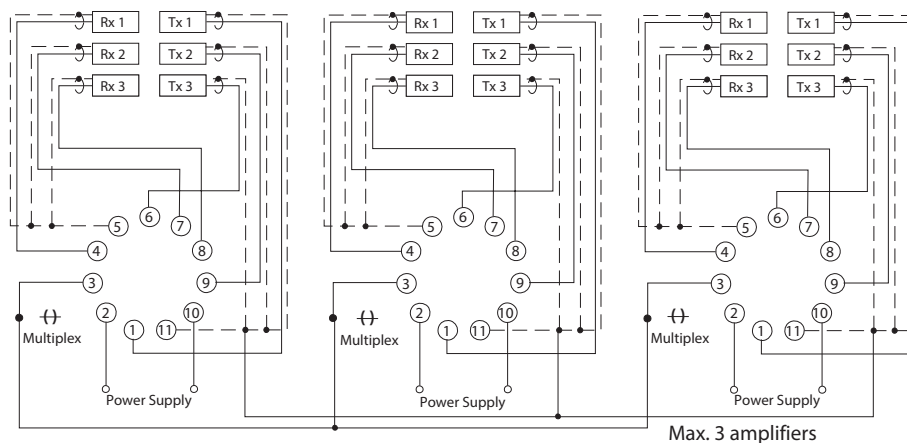
Dimensions



Wiring Diagrams



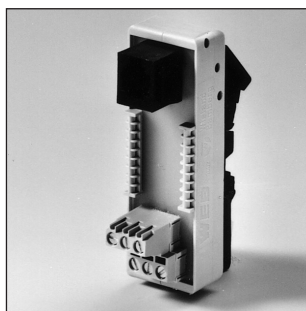
Wiring Diagram, Multiplex Mode



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 | 2.0 m, 6 wires two plugs |
| - Power supply for 115/230 VAC | SS120-series |
| - DIN-rail interface | 6IODC |

Interface



6IODC

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

Delivery Contents

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