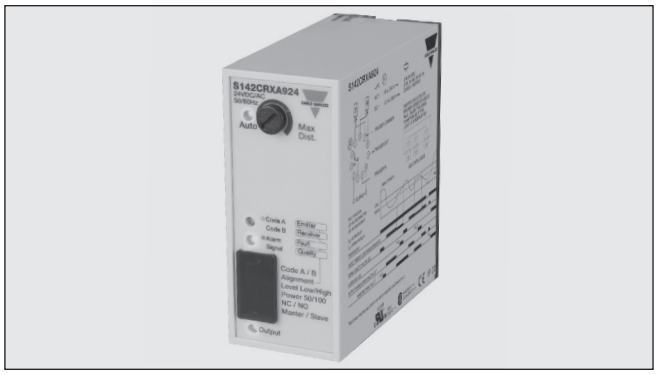
Photoelectrics Amplifier Type S142C..



- **µ-Processor controlled**
- **Amplifier relay for photoelectric switches**
- **Automatic or manual emitter power regulation**
- **Multiplex system, master/slave 20 ms cycle**
- **Self-diagnostic functions**
- **Alignment help**
- **Rated operational voltage: 24 VAC/DC, 115 VAC or 230 VAC**
- **Output 8 A/250 VAC SPDT relay**
- **LED indication: Automatic gain, output, level, emitter or receiver fault**

Product Description

µ-Processor controlled amplifier for one set of photoelectric sensors, type MOFTR. Utilising an 11-pin circular plug for easy connection.
8 A SPDT relay output. Diagnostics for sensor test during operation. Alignment help via LED. Level indication for dirt accumulation. Manual or automatic emitter power regulation. Master/ Slave system fully multiplexed for high neighbour immunity. Two emitter codes available for high neighbour immunity between two seperate master/slave networks.

Ordering Key

S142 C RXM 924

- **Type**
- **Special function**
- **Output type**
  - **R-Relay**
  - **X-None**
  - **M-Manuel adj.**
  - **A-Manuel and automatic adj.**
- **Power supply**

Type Selection

Function	Ordering no. Supply: 24 VAC/DC	Ordering no. Supply: 115 VAC	Ordering no. Supply: 230 VAC
Manuel or Automatic adj.[1)]	**S142 C RXA 924**	**S142 C RXA 115**	**S142 C RXA 230**
Manuel adj.[2)]	**S142 C RXM 924**	**S142 C RXM 115**	**S142 C RXM 230**

[1)] Amplifier can not be used as replacement in old systems, if used in old systems all amplifiers must be replaced.

[2)] Amplifier direct replacement for S1423156xxx, only for replacement not for new design.

Specifications

Rated operational voltage (U_B)		
Pins 2 & 10	230	195 to 265 VAC, 45 to 65 Hz
	115	98 to 132 VAC, 45 to 65 Hz
	924	20.4 to 27.6 VAC/DC Class 2
Rated operational power		
AC supply		3.3 VA
AC/DC supply		1.6 VA / 1.4 W
Delay on operate (t_v)		< 300 mS
Outputs		
Relay Rating (AgCdO)		µ (micro gap)
Resistive loads	AC1	8 A / 250 VAC (2500 VA)
	DC1	0.2 A / 250 VDC (50 W)
	or	2 A 25 VDC (50 W)
Electrical life (typical)	AC1	> 100.000 operations
Output function		Make or break on DIP-switch
Relay		SPDT
Supply to sensors		
Emitter		Pins 5 & 7
Supply voltage (open loop)		15 V square wave
Current		< 450 mA, short circuit protected
Output resistance		10 Ω
Receiver		Pins 6 & 8
Supply voltage (open loop)		5 VDC
Short-circuit current		10 mA
Input resistance		470 Ω
Emitter power		
Power		Settings on DIP switch no 4, 50 % or 100 % range
Sensitivity adjustment		
Manual		240° Potentiometer
Automatic /Auto LED ON)		Potentiometer settings fully counter clockwise
Max. sensing distance		Maximum range indicated on photoelectric switch data-sheets in 100 % settings
Rated insulation voltage (U_i)		250 VAC
Dielectric voltage		>2.0 KVAC (rms) (contacts / electronics)
Rated impulse withstand volt.		4 kV (1.2/50 µS) (contacts / electronics) (IEC 664)
Operating frequency (f)		
Light / Dark ratio		1:1
Relay output		20 HZ

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Specifications

Response time	
OFF-ON (t_{ON})	20 mS x no. of systems
ON-OFF (t_{OFF})	20 mS x no. of systems
Environment	
Overvoltage category	III (IEC 60664)
Degree of protection	IP 20 /IEC 60529, 60947-1)
Pollution degree	3 (IEC 60664/60664A, 60947-1)
Temperature	
Operating	-20° to +50°C (-4° to +122°F)
Storage	-50° to +85°C (-58° to +185°F)

Housing material	NORYL SE1, light grey
Weight	
AC supply	200 g
AC/DC supply	125 g
Approvals	UL508, UL325, CSA
CE marking	EN12445, EN12453, EN12978

Specifications

Diagnostic
If a fault occurs on either the emitter or receiver the Alarm LED and output will turn ON.

Receiver fault
During normal operation the receiver is monitored for faults.
If the wires are short-circuited the “Code A, Yellow LED” flashes at a rate of 2 Hz.
If the wires are broken the “Code A, Yellow LED” flashes at a rate of 4 Hz.

Emitter fault
During normal operation the emitter is monitored for faults.
If the wires are short-circuited the “Code B, Green LED” flashes at a rate of 2 Hz.
If the wires are broken the “Code B, Green LED” flashes at a rate of 4 Hz.

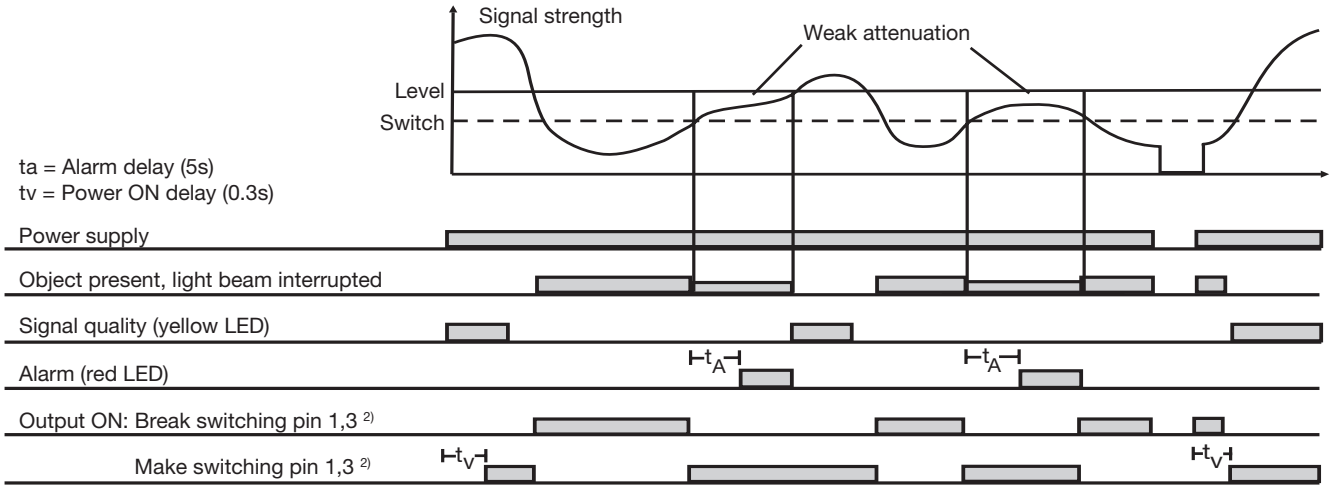
Alignment
If the alignment DIP switch is set the Yellow Signal LED Flashes according to the signal quality.
Low frequency means weak signal.
Steady indication means maximum signal. On long distance it is not possible to get a steady signal but the alignment is optimal when the led flashes with the highest frequency.
On short distance the sensitivity can be reduced using the potentiometer and then get better readings in the alignment LED.
The ALARM output will follow the Signal LED in alignment mode, so a Sensor tester (optional) can be connected to serve as a remote indication during alignment of the sensors.
NB! In alignment mode the output is off.

Code A or B
When two sensor pairs are mounted close to each other it is recommended to select one set to Code A and the other to Code B to minimize crosstalk.

Dirt reserve
For optimal detection excess gain settings can be selected using the Level Low/High DIP switch:
- High: Allows high dirt build-up.
- Low: Allows detection of semi-transparent objects.

Power settings
To avoid a too strong emitter the power can be reduced to 50% reducing the max distance to 25%

Operation Diagram



2) Switching function selected by DIP-switch, inverted function on pin 1, 4