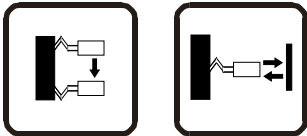


Fiber Optic Analog: SA1C-FK



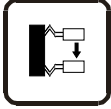
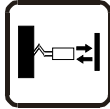
Key features:

- High-speed, miniature photoelectric sensors with analog (4 - 20mA) and digital output
- Senses gradual color changes
- Available in red or green LEDs
- Through-beam and reflected-light sensing available
- Ideal for either color mark applications or simple presence and absence applications requiring analog output
- Compact size allows for DIN rail mounting
- Fiber optic units available to address specific application needs
- Simple to install
- IP66 protection rating

Built on the foundation of SA1C-F, SA1C-FK is ideal for either color mark applications or simple presence and absence applications requiring analog output.

Featuring analog and digital output, this sensor comes in through-beam or reflected-light sensing styles.

Part Numbers

Function	Light Source Element	Output	Part Number
 	Red LED	Analog output + NPN output	SA1C-FK3
	Green LED		SA1C-FK3G

For information on accessories, see page 203.

 Function is determined by the fiber optic unit used.

Specifications

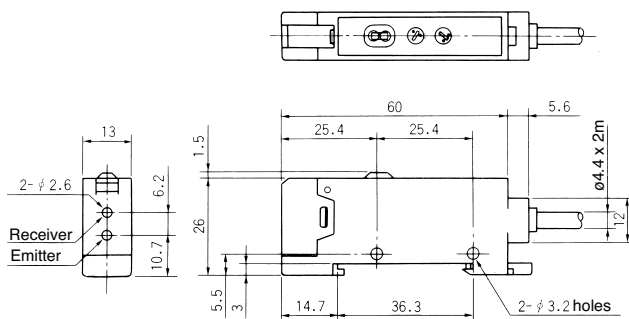
		SA1C-FK3	SA1C-FK3G
Light Source Element	Red LED	✓	—
	Green LED	—	✓
Sensing Distance	Depends on the fiber unit (see page 204)	✓	✓
Power Voltage	12 to 24V DC (Operating voltage: 10 to 30V DC) ripple 10% maximum	✓	✓
Current Draw	80mA maximum	✓	✓
Analog Current Output	4 to 20mA, 5V DC maximum ¹	✓	✓
Digital Output	NPN open collector 30V DC, 100mA maximum, 1.5V maximum with short circuit protection	✓	✓
Operation Mode	Dark ON (connect MODE line to GND line)	✓	✓
	Light ON (connect MODE line to power line)	✓	✓
Response	0.5ms maximum ²	✓	✓
Indicator	Operation LED: Red, Stable LED: Green	✓	✓
Detectable Object	Translucent object, opaque object	✓	✓
Hysteresis	20% maximum (using reflex fiber unit)	✓	✓
Sensitivity	4-turn adjustment	✓	✓
Operation Point Control	1 turn	✓	✓
Receiver Element	Photo diode	✓	✓
Operating Temperature	–25 to +55°C (performance will be adversely affected if the sensor becomes coated with ice)	✓	✓
Storage Temperature	–30 to +70°C (performance will be adversely affected if the sensor becomes coated with ice)	✓	✓
Operating Humidity	35 to 85% RH (avoid condensation)	✓	✓
Extraneous Light Immunity	Sunlight: 10,000 lux maximum; Incandescent light: 3,000 lux (at the receiver)	✓	✓
Noise Resistance	Normal mode: 500V (50ns to 1μs, 100Hz: Using a noise simulator)	✓	✓
	Common mode: 300V (50ns to 1μs, 100Hz: Using a noise simulator)	✓	✓
Insulation Resistance	Between live and dead parts: 20MΩ minimum, with 500V DC megger	✓	✓
Dielectric Strength	Between live and dead parts: 1,000V, 1 minute	✓	✓
Vibration Resistance	Damage limits: 10 to 55Hz; Single amplitude: 0.75mm 20 cycles in each of 3 axes	✓	✓
Shock Resistance	Damage limits: 500 m/sec ² 10 cycles in each of 3 axes	✓	✓
Degree of Protection	IP66—IEC Pub 529	✓	✓
Cable	Ø4.4mm 5-core vinyl cabtyre cable 0.2mm ² , 6'–6-3/4" (2m) long	✓	✓
Material	Housing: PBT	✓	✓
Accessories	Mounting bracket, adjusting screwdriver, load resistor (249Ω) for converting analog amperage to voltage (1 to 5V)	✓	✓
Interference Prevention	Up to 2 units can be installed in close proximity. For analog output, interference prevention is not possible.	✓	✓
Weight	Approximately 75g	✓	✓



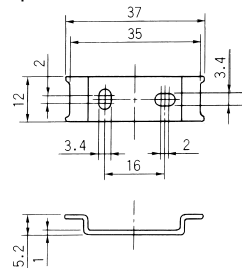
1. Analog current output specification is based on the power voltage range from 12 to 24V DC (±10%). Use the attached resistor (249Ω, 1/4W) as a load resistance for converting analog output to voltage.
2. Response time for analog current output is between 10% and 90% of the rise or fall of the voltage signal when using a 249Ω resistor.



Dimensions (mm)



Panel Mounting Bracket (attachment)
Not required for DIN Rail mounting



Mounting Hole Layout

