

FIBER SENSORS

Digital Fiber Amplifier



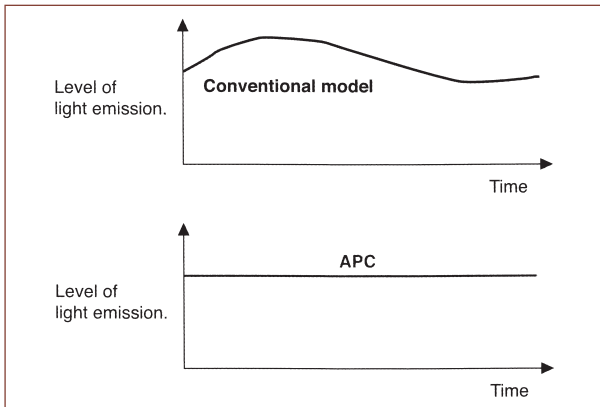
D2RF-T Series

The D2RF Digital Fiber Amplifier is equipped with the latest functions and features to meet even the most demanding needs of today's industry.

APC Function (Auto Power Control)

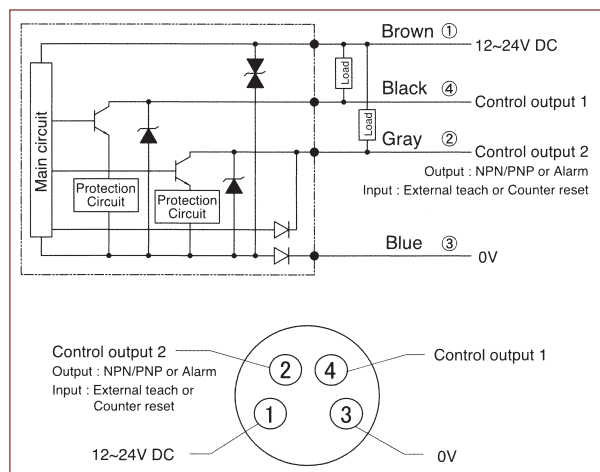
The APC function ensures precise sensing even when there are changes in the temperature or environmental conditions.

APC maintains a constant power level of light emission by regulating the current flow into the light emission element. The APC function can be turned On and Off.



Two Independent Outputs Each output can be set separately

The 2nd output can be configured as an external Teach input.



The operation of each output can be set to Light-On / Dark-On. Also, the Threshold level, Timer settings, etc. of each output can be set independently. The Analog output type (D2RF-TAN/P) provides a 4 ~ 20 mA (gray wire) analog output and a NPN (or PNP) digital output (black wire).

The second output can be configured as an Alarm output (self-diagnostic). It can also be set to operate as an External Teach Input or Counter Reset Input if the Counter function is being used.

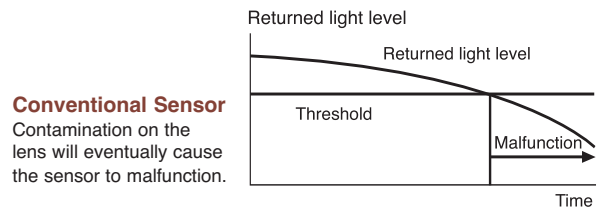
SAM Circuit - The ASC function (Auto Sensitivity Control)

Our engineer "SAM" designed this function. The lens and / or reflector may be contaminated over time. The D2RF amplifier monitors the change in light level and automatically resets the threshold value.

After cleaning off the lens / reflector it used to be necessary to reset the threshold setting. The D2RF does not require this step. Simply clean off the lens and wait three seconds without a target present. The sensor will automatically reset the threshold level for the change. This is how the SAM circuit works.

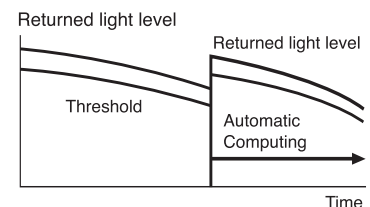
After cleaning the incoming light level will increase suddenly. The SAM circuit computes the preset threshold based on the increase in light intensity.

This function is available only in Transparent Detection Mode.



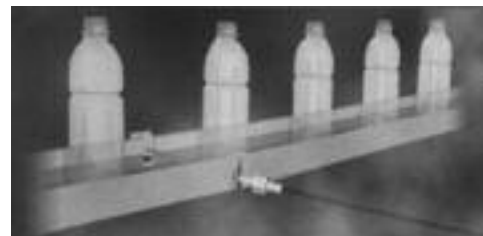
D2RF series SAM Circuit

The threshold will automatically return to the preset level after the lens is cleaned off.

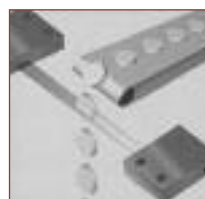


IP66 and IP50, two types

If your application is around water or high humidity. There is a model of the D2RF-T series with an IP66 rating.



60 Micro Second High Speed Response.



Both outputs can be set to operate at this speed.

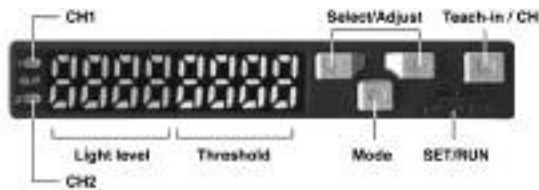
This response time is available in 5 of the teach modes.



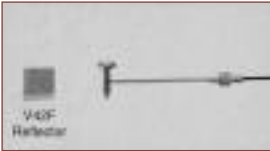
FIBER SENSORS

Two Four Digit Display's

Received Light Level and Threshold Setting



6 Teach Method for Individual Applications



Full Power Teaching

Standard detection mode for Thru-beam type sensing but applicable for retro-reflective sensing also.



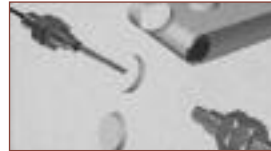
Single Point Teaching

Set without a target present.



Two Points Teaching

Standard detection mode for Diffuse type sensing. It is possible to make fine adjustments.



Full Automatic Teaching

Set while the equipment is operating.



Transparent / Glass Teaching

Ideal for the detection of glass, film, plastic or any transparent material.



Zone Teaching

Similar to Area Teach Mode. This is useful if the conveyor moves closer to and farther from the sensor. An area +/- 10% of the teach point can be detected.

Specification

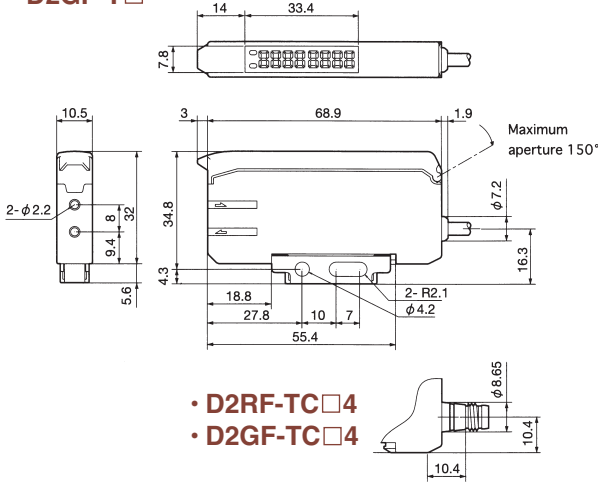
Type	Standard	Mark Sensor	Analogue
Stand-alone Type			
IP50 type	Cable type NPN / PNP M8 QD 4pin, NPN / PNP	D2RF-TN, or D2RF-TP D2RF-TCN4 or D2RF-TCP4	D2GF-TN or D2GF-TP D2GF-TCN4 or D2GF-TCP4
IP66 type	Cable type NPN / PNP M8 QD 4pin, NPN / PNP M8 QD 3pin, NPN / PNP	D2RF-2TN, or D2RF-2TP D2RF-2TCN4 or D2RF-2TCP4 D2RF-2TCN3 or D2RF-2TCP3	D2GF-2TN or D2GF-2TP D2GF-2TCN4 or D2GF-2TCP4 D2GF-2TCN3 or D2GF-2TCP3
Interconnection Type			
Master unit	Cable type NPN / PNP M8 QD 4pin, NPN / PNP	D2RF-TMN, or D2RF-TMP D2RF-TMCN4, or D2RF-TMCP4	D2GF-TMN, or D2GF-TMP D2GF-TMCN4, or D2GF-TMCP4
Slave unit	Cable type NPN / PNP M8 QD 4pin, NPN / PNP	D2RF-TSN, or D2RF-TSP D2RF-TSCN4, or D2RF-TSCP4	D2GF-TSN, or D2GF-TSP D2GF-TSCN4, or D2GF-TSCP4
Light Source	Red LED	Green LED	Red LED
Response Time	60 micro sec (Fast mode), 250 micro sec (standard), 2.0 ms (Long distance)		
Auto Control System	APC / ASC		
LED Power Control	3 steps; 100%, 50% and 25%		
Timer Functions	On delay / Off delay / One shot, 1-9,999msec (1msec increment)		
Sensitivity Adjustment	Teach-in + fine adjustment		
Output Indicator	Output (orange): 1 CH / 2CH common		Output (orange)
Digital Indicator	7 segment LED, 4 digits in Red, 4 digits in Green		
Teach-in Mode	Full Power / One point / Two points / Full Automatic / Differential / Zone / Transparent		
Control Output	2CH, NPN or PNP open collector, DC30V, 100mA Max		1CH, NPN or PNP
Analogue Output	NA		4-20mA
Parallel Installation	Up to 16 sets		
Crosstalk Prevention	Up to 4 sets		
Output Mode	Light on / Dark on selectable		
Sensing Mode	Long Distance Mode, Standard, Fast mode		
Display	Regular display plus ; bar, %, eco (off, run mode only)		
External Input	Teaching / Counter Reset		
Supply Voltage	DC 10-24V +/- 10% ripple		
Current Consumption	45mA Max (24A)		
Circuit Protection	Reverse Polarity, Overcurrent, Short circuit		
Warmup Time	100m sec		
Ambient Temp / Humidity	-25 to 55° C, 35 to 85% RH		
Storage Temp / Humidity	-40 to 70° C, 35 to 85% RH		
Ambient Illumination	Sunlight 10,000 lux, High Frequency Lamp 3,000 lux		
Protection Category	IEC, IP50 (except Stand-alone IP66 types)		
Noise Resistance	IEC, CE		
Shock Resistance	IEC 68, 50G		

Specifications are subject to change without prior notice

Dimensions (mm)

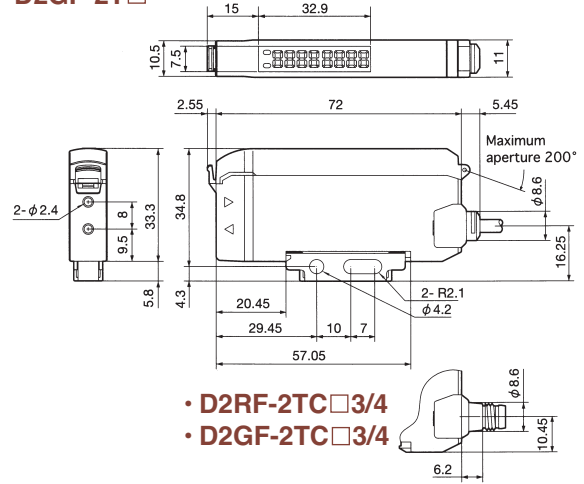
Standalone model

- D2RF-T□
- D2GF-T□



- D2RF-TC□4
- D2GF-TC□4

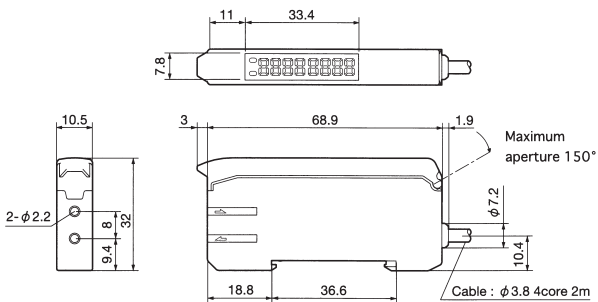
- D2RF-2T□
- D2GF-2T□



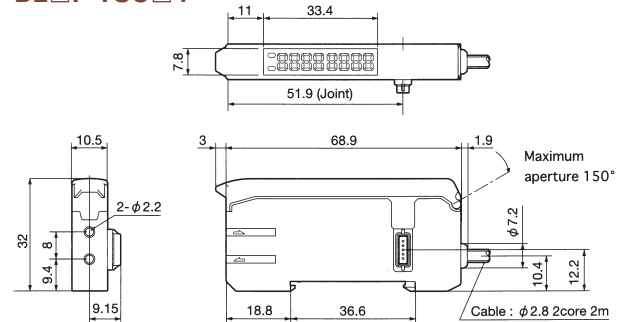
- D2RF-2TC□3/4
- D2GF-2TC□3/4

Interconnect model

- D2□F-TM
- D2□F-TMC□4



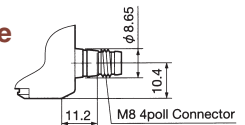
- D2□F-TS□
- D2□F-TSC□4



• M8 Connector Type



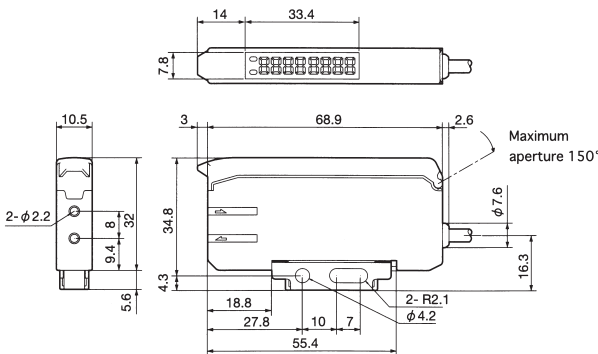
BF-WLL190-02
Masking cover



M8 4poll Connector

Analogue model

- D2RF-TA□



- D2RF-2TA□

