



DF-G2 High-Speed Expert™ Dual-Display Fiber Amplifier

The high speed DF-G2 fiber amplifiers now offer several LED colors to maximize contrast in challenging low-contrast applications

- Best in Class response time
- Programming via displays and switches/buttons or remote input teach wire
- Expert TEACH and SET methods ensure optimal gain and threshold for all applications, especially low contrast applications
- Cross talk avoidance algorithm allows two sensors to operate in close proximity for many applications

DF-G2, 10-30 V DC

Sensing Beam Color	Range	Connection	Output	Model
Visible Red	Range varies by response speed and fiber optics used	2 m	NPN	DF-G2-NS-2M NEW
			PNP	DF-G2-PS-2M NEW



DF-G2 Multiple color
Multiple LED color options available.

DF-G2 Multiple Color Fiber Amplifier, 10-30 V DC

Sensing Beam Color	Range	Connection	Output	Model
Broad Spectrum White	50% of Visible Red Range	2 m	NPN	DF-G2W-NS-2M NEW
			PNP	DF-G2W-PS-2M NEW
Visible Green	60% of Visible Red Range	2 m	NPN	DF-G2G-NS-2M NEW
			PNP	DF-G2G-PS-2M NEW
Visible Blue	70% of Visible Red Range	2 m	NPN	DF-G2B-NS-2M NEW
			PNP	DF-G2B-PS-2M NEW
Infrared	190% of Visible Red Range	2 m	NPN	DF-G2IR-NS-2M NEW
			PNP	DF-G2IR-PS-2M NEW

For more specifications see page 251.

Connection options: A model with a QD requires a mating cordset (see page 251).

For 9 m cable, change the suffix 2M to **9M** in the 2 m model number (example, **DF-G2-NS-9M**).







For M8 pico pigtail, change the suffix 2M to **Q3** in the 2 m model number (example, **DF-G2-NS-Q3**).

For M12 euro pigtail, change the suffix 2M to **Q5** in the 2 m model number (example, **DF-G2-NS-Q5**).

Cordsets







Euro QD (for Q5 models)


See page 906

Length	Threaded 4-Pin			
	Straight		Right-Angle	
1.83 m		MQDC-406		MQDC-406RA
4.57 m		MQDC-415		MQDC-415RA
9.14 m		MQDC-430		MQDC-430RA

Pico QD (for Q3 models)

See page 904

Length	Threaded 4-Pin			
	Straight		Right-Angle	
2.00 m		PKG4M-2		PKW4M-2
5.00 m		PKG4M-5		PKW4M-5
9.00 m		PKG4M-9		PKW4M-9

 Additional cordset information available.
See page 902.

Brackets


DF-G2

See page 860

See page 860

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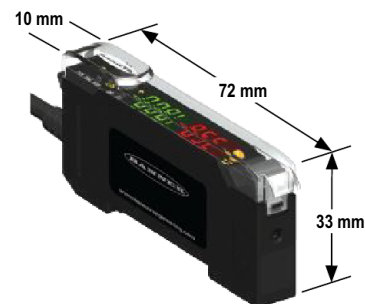
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 Additional bracket information available.
See page 852.



Clamps

DF-G2

SA-DIN-CLAMP



DF-G2 Specifications

Supply Voltage and Current	10 to 30 V dc (10% max ripple)	
Supply Protection Circuitry	Protected against reverse polarity, over voltage, and transient voltages Standard display mode: 960 mW, Current consumption less than 40 mA at 24 V dc ECO display mode: 720 mW, Current consumption less than 30 mA at 24 V dc	
Output Configuration	NPN/PNP Models: 1 current sourcing (PNP) or 1 current sinking (NPN) output, depending on model, plus 1 Health Mode output	
Output Rating	100 mA max. load (derate 1 mA per ° C above 30° C) OFF-state leakage current: NPN/PNP: < 5 µA at 30 V dc ON-state saturation voltage: NPN: < 1.5 V PNP: < 2 V	
Output Protection Circuitry	Protected against output short-circuit, continuous overload, transient over-voltages, and false pulse on power up	
Sensing Beam	DF-G2: Visible red, 635 nm DF-G2W: Broad spectrum white, 450 to 650 nm DF-G2B: Visible blue, 470 nm DF-G2G: Visible green, 525 nm DF-G2IR: Infrared, 850 nm	
Output Response Time	Super High Speed: 10 µs Fast: 50 µs Medium Range: 500 µs	High Speed: 15 µs Standard: 250 µs Long Range: 1000 µs Long Range with immunity to Energy Efficient Lights: 2000 µs
Repeatability	Super High Speed: 5 µs Fast: 12 µs Medium Range: 80 µs	High Speed: 5 µs Standard: 50 µs Long Range: 165 µs Long Range with immunity to Energy Efficient Lights: 165 µs
Construction	Black ABS/polycarbonate alloy (UL94 V-0 rated) housing, clear polycarbonate cover	
Environmental Rating	IEC IP50, NEMA 1	
Connections	PVC-jacketed 2 or 9 m 4-wire integral cable, integral 4-pin Pico-style QD, Pico-style QD or Euro QD.	
Operating Conditions	Temperature: -10° to +55° C	Storage: -20° to +85° C Relative Humidity: 90% @ 60° C (non-condensing)
Certifications	 	



DF-G2

Small Object Fiber Amplifier

The DF-G2 Series uses Banner's unique firmware designed to achieve accurate, high speed, low contrast performance for small object detection applications.

- Percent-based threshold selectable from 2% to 50% for sensitivity adjustment
- Automatic Gain Compensation (AGC) algorithm compensates for dust build-up on fiber optics to extend counting cycle and maintain count accuracy
- Intelligent Dynamic Event Stretcher (DES) minimizing chance for double-counting, even with non-uniform objects (i.e. gel caps, washers, etc.)
- Three TEACH methods include Window, Light Set and Dynamic TEACH
- Fast response speeds of 25, 50, 150, 250, and 500 microseconds
- ECO (economy) display mode reduces amplifier power consumption by 25%

DF-G2, 10-30 V DC

Sensing Mode	Connection	Window Size	Output	Model
	2 m	Determined by the fiber optic assembly	NPN	DF-G2-NC-2M NEW
			PNP	DF-G2-PC-2M NEW
	4-pin M8 pigtail QD		NPN	DF-G2-NC-Q3 NEW
			PNP	DF-G2-PC-Q3 NEW
	4-pin M12 pigtail QD		NPN	DF-G2-NC-Q5 NEW
			PNP	DF-G2-PC-Q5 NEW
	4-pin snap threaded M8 QD		NPN	DF-G2-NC-Q7 NEW
			PNP	DF-G2-PC-Q7 NEW

Fiber Optic Arrays for DF-G2

Sensing Mode	Window Size	Fiber Exit	Minimum Object Size	Model
	10 x 25 mm	Side Exit	1.5 mm	PFCVA-10X25-S
		End Exit		PFCVA-10X25-E
	25 x 25 mm	Side Exit	3 mm	PFCVA-25X25-S
		End Exit		PFCVA-25X25-E
	34 x 25 mm	Side Exit	4 mm	PFCVA-34X25-S
		End Exit		PFCVA-34X25-E







For more specifications see page 253.

Connection options: A model with a QD requires a mating cordset (see page 253).
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Cordsets







Euro QD (for Q5 models)


See page 906

Length	Threaded 4-Pin	
	Straight	Right-Angle
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See page 860

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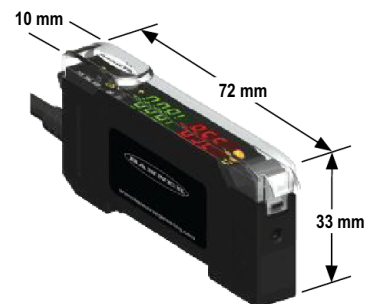
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SA-DIN-CLAMP



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Output Protection Circuitry	Protected against output short-circuit, continuous overload, transient over-voltages, and false pulse on power up
Sensing Beam	Visible red, 635 nm
Output Response Time	25 µs 50 µs 150 µs 250 µs 500 µs
Repeatability	12 µs 12 µs 30 µs 50 µs 80 µs
Construction	Black ABS/polycarbonate alloy (UL94 V-0 rated) housing, clear polycarbonate cover
Environmental Rating	IEC IP50, NEMA 1
Connections	PVC-jacketed 2 or 9 m 4-wire integral cable, integral 4-pin Pico-style QD, Pico-style QD or Euro QD.
Operating Conditions	Temperature: -10° to +55° C Storage: -20° to +85° C Relative Humidity: 90% @ 60° C (non-condensing)
Certifications	