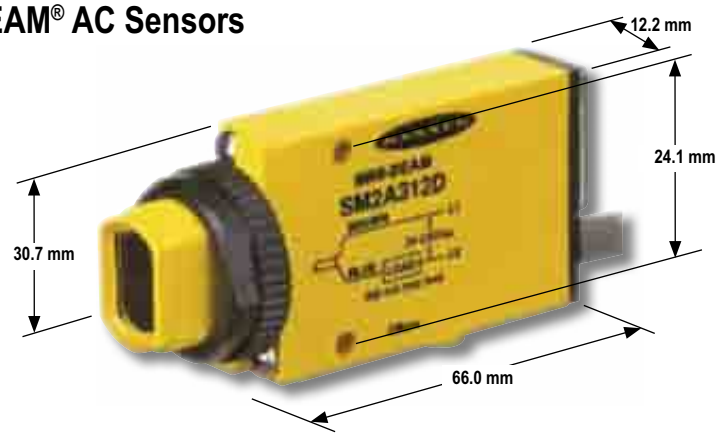
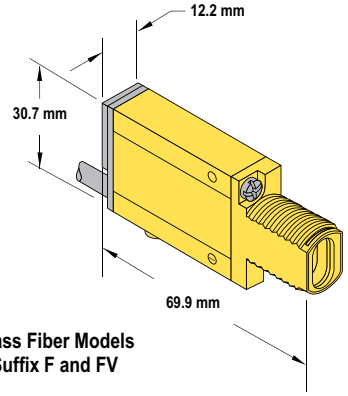
MINI-BEAM® AC Sensors

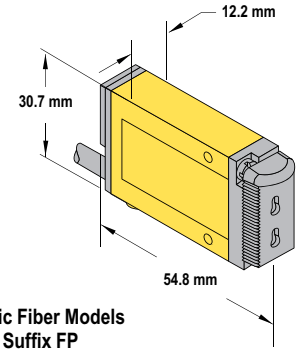


Opposed, Retroreflective, Diffuse and Convergent Models
Suffix E, R, EPD, RPD, D, LV, LP, C and CV

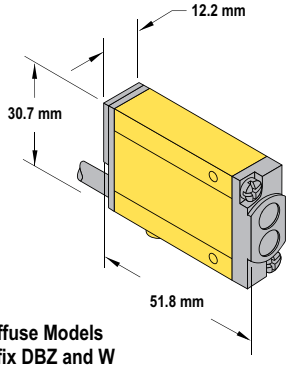
ONLINE
AUTOCAD, STEP, IGES & PDF



Glass Fiber Models
Suffix F and FV



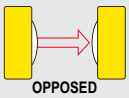
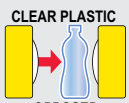
Plastic Fiber Models
Suffix FP



Diffuse Models
Suffix DBZ and W

MINI-BEAM®, 24-240V ac

Infrared LED Visible Red LED

Sensing Mode/LED	Range	Connection	Output	Models	Excess Gain	Beam Pattern
 OPPOSED	3 m	2 m	SPST Solid-State 2-Wire	SMA31E Emitter	EGC-1 (p. 119)	BP-1 (p. 123)
		3-Pin Micro QD		SMA31EQD Emitter		
		2 m		SM2A31R		
		3-Pin Micro QD		SM2A31RQD		
	30 m	2 m		SMA31EL Emitter	EGC-2 (p. 119)	BP-2 (p. 123)
		3-Pin Micro QD		SMA31ELQD Emitter		
		2 m		SM2A31RL		
		3-Pin Micro QD		SM2A31RLQD		
 CLEAR PLASTIC OPPOSED	0.3 m	2 m		SM2A31EPD Emitter	See Note Below***	See Note Below***
		3-Pin Micro QD		SM2A31EPQD Emitter		
		2 m		SM2A31RPD		
		3-Pin Micro QD		SM2A31RPDQD		

More on next page

Connection options: A model with a QD requires a mating cordset (see page 118).

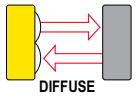
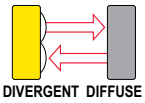
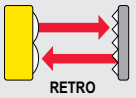
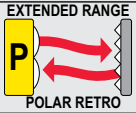
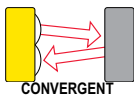
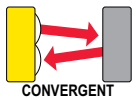
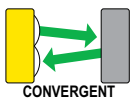
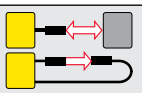
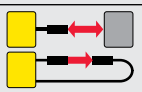
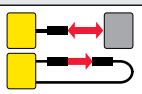
For 9 m cable, add suffix **W/30** to the 2 m model number (example, **SM2A312D W/30**).

*** Actual range depends on light transmission through the plastic being sensed. Some clear plastic materials may not be detected. When in doubt, ask your Banner representative to evaluate material samples.

ACCESSORIES page 118

MINI-BEAM®, 24-240V ac (cont'd)

Infrared LED | Visible Red LED | Visible Green LED

Sensing Mode/LED	Range	Connection	Output	Models	Excess Gain	Beam Pattern
 DIFFUSE	380 mm	2 m	SPST Solid-State 2-Wire	**SM2A312D**	EGC-12 (p. 119)	BP-12 (p. 123)
		3-Pin Micro QD		**SM2A312DQD**		
	300 mm	2 m		**SM2A312DBZ**	EGC-13 (p. 119)	BP-13 (p. 123)
		3-Pin Micro QD		**SM2A312DBZQD**		
 DIVERGENT DIFFUSE	130 mm	2 m		**SM2A312W**	EGC-14 (p. 119)	BP-14 (p. 123)
		3-Pin Micro QD		**SM2A312WQD**		
 RETRO	5 m†	2 m	SPST Solid-State 2-Wire	**SM2A312LV**	EGC-4 (p. 119)	BP-4 (p. 123)
		3-Pin Micro QD		**SM2A312LVQD**		
 POLAR RETRO	50 mm - 2 m†	2 m		**SM2A312LVAG**	EGC-5 (p. 119)	BP-5 (p. 123)
		3-Pin Micro QD		**SM2A312LVAGQD**		
 EXTENDED RANGE POLAR RETRO	10 mm - 3 m†	2 m		**SM2A312LP**	EGC-6 (p. 119)	BP-6 (p. 123)
		3-Pin Micro QD		**SM2A312LPQD**		
 CONVERGENT	16 mm	2 m	SPST Solid-State 2-Wire	**SM2A312C**	EGC-20 (p. 120)	BP-20 (p. 124)
		3-Pin Micro QD		**SM2A312CQD**		
	43 mm	2 m		**SM2A312C2**	EGC-21 (p. 120)	BP-21 (p. 124)
		3-Pin Micro QD		**SM2A312C2QD**		
 CONVERGENT	16 mm	2 m		**SM2A312CV**	EGC-22 (p. 120)	BP-22 (p. 124)
		3-Pin Micro QD		**SM2A312CVQD**		
	43 mm	2 m		**SM2A312CV2**	EGC-23 (p. 120)	BP-23 (p. 124)
		3-Pin Micro QD		**SM2A312CV2QD**		
 CONVERGENT	16 mm	2 m		**SM2A312CVG**	EGC-24 (p. 120)	BP-24 (p. 124)
		3-Pin Micro QD		**SM2A312CVGQD**		
 GLASS FIBER	Range varies by sensing mode and fiber optics used	2 m		**SM2A312F**	EGC-35 & EGC-36 (p. 121)	BP-35 & BP-36 (p. 125)
		3-Pin Micro QD		**SM2A312FQD**		
 GLASS FIBER		2 m		**SM2A312FV**	EGC-37 & EGC-38 (p. 121)	BP-37 & BP-38 (p. 125)
		3-Pin Micro QD		**SM2A312FVQD**		
 PLASTIC FIBER	Range varies by sensing mode and fiber optics used	2 m	SPST Solid-State 2-Wire	**SM2A312FP**	EGC-50 & EGC-51 (p. 122)	BP-50 & BP-51 (p. 126)
		3-Pin Micro QD		**SM2A312FPQD**		

Connection options: A model with a QD requires a mating cordset (see page 118).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **SM2A312LP W/30**).

† Retroreflective range is specified using one model BRT-3 retroreflector. Actual sensing range may differ, depending on the efficiency and reflective area of the retroreflector used. See Accessories for more information.

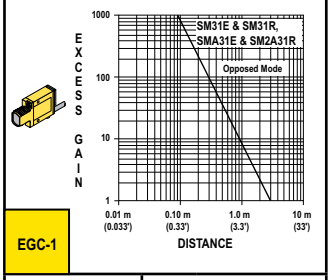
MINI-BEAM® AC Specifications

Supply Voltage and Current	24 to 240V ac (50/60 Hz), 250V ac max
Supply Protection Circuitry	Protected against transient voltages
Output Configuration	SPST SCR solid-state relay (light/dark operate selectable); 2-wire hookup
Output Rating	Min. load current 5 mA max. steady-state load capability 300 mA to 50° C ambient 100 mA to 70° C ambient **Inrush capability:** 3 amps for 1 second (non repetitive); 10 amps for 1 cycle (non repetitive) **OFF-state leakage current:** less than 1.7 mA rms **ON-state voltage drop:** ≤ 5 volts at 300 mA load, ≤ 10 volts at 15 mA load
Output Protection Circuitry	Protected against false pulse on power-up
Output Response Time	**Opposed:** 2 milliseconds ON and 1 millisecond OFF **Non-Polarized and Polarized Retroreflective, Convergent and Plastic Fiber Optic:** 4 milliseconds ON and OFF **Diffuse and Glass Fiber Optic:** 8 milliseconds ON and OFF OFF response time specification does not include load response of up to ½ ac cycle (8.3 milliseconds). Response time specification of load should be considered when important.
Delay at Power-up	300 milliseconds
Repeatability	**Opposed:** 0.3 milliseconds **Non-Polarized and Polarized Retroreflective, Convergent and Plastic Fiber Optic:** 1.3 milliseconds **Diffuse and Glass Fiber Optics:** 2.6 milliseconds Response time and repeatability specifications are independent of signal strength.
Adjustments	LIGHT/DARK OPERATE select switch and 15-turn slotted GAIN (sensitivity) adjustment potentiometer
Indicators	Red indicator LED on rear of sensor is “ON” when the load is energized
Construction	Reinforced thermoplastic polyester housing, totally encapsulated, o-ring sealing, acrylic lenses, and stainless steel screws
Environmental Rating	Meets NEMA standards 1, 2, 3, 3S, 4, 4X, 6, 12, and 13; IEC IP67
Connections	PVC-jacketed 2-conductor 2 m or 9 m cables, or 3-pin Micro-style quick-disconnect (QD) fitting are available. QD cordsets are ordered separately. See page 118.
Operating Conditions	**Temperature:** -20° to +70° C **Relative humidity:** 90% at 50° C (non-condensing)
Application Notes	1) Overload conditions can destroy ac MINI-BEAM sensors. Directly wiring sensor without load series across hot and neutral will damage sensor (except emitter models). 2) Low voltage use requires careful analysis of the load to determine if the leakage current or on-state voltage of the sensor will interfere with proper operation of the load. 3) The false-pulse protection feature may cause momentary drop-out of the load when the sensor is wired in series or parallel with mechanical switch contacts.
Certifications	CE c UL us CSA
Hookup Diagrams	**Cabled Emitters:** AC03 (p. 750) **All Other Cables Models:** AC01 (p. 750) **QD Emitters:** AC04 (p. 750) **All Other Cabled Models:** AC02 (p. 750)

Excess Gain Curves (Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED P = Visible Red LED Polarized ■ = Visible Red Clear Object Detection Polarized

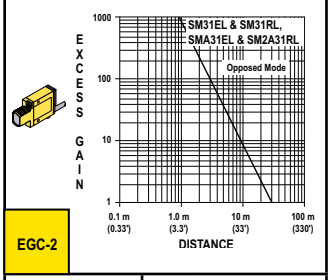
Opposed Mode MINI-BEAM®



EGC-1

Range: 3 m **LED:** ○

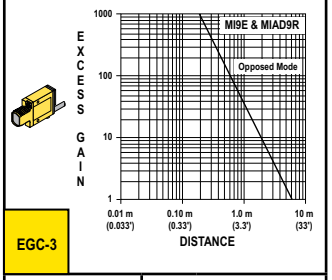
Opposed Mode MINI-BEAM®



EGC-2

Range: 30 m **LED:** ○

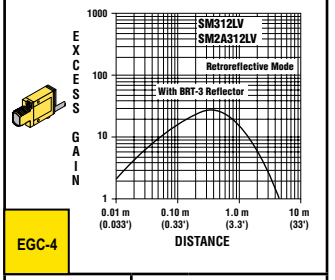
Opposed Mode MINI-BEAM® NAMUR



EGC-3

Range: 6 m **LED:** ○

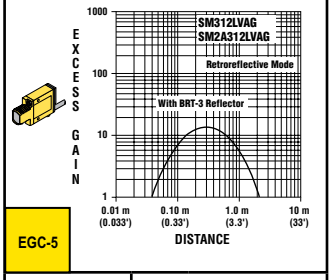
Retroreflective Mode MINI-BEAM®



EGC-4

Range: 5 m **LED:** ●

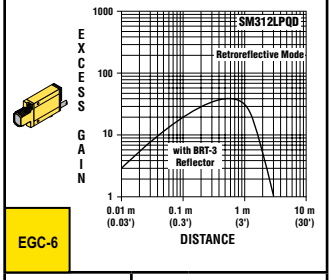
Polarized Retroreflective Mode MINI-BEAM®



EGC-5

Range: 2 m **LED:** P

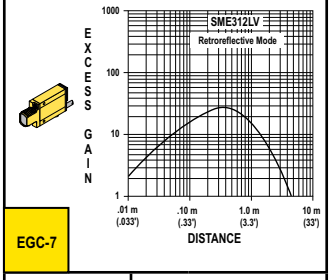
Retroreflective Mode MINI-BEAM®



EGC-6

Range: 3 m **LED:** P

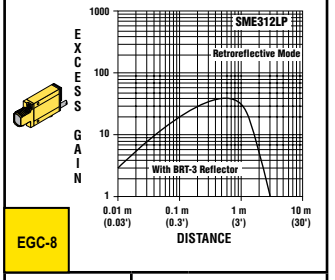
Retroreflective Mode MINI-BEAM® *Expert*™



EGC-7

Range: 5 m **LED:** ●

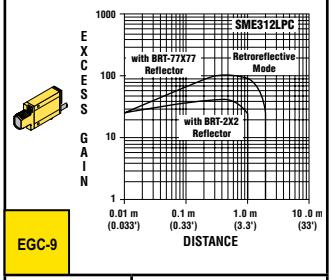
Polarized Retroreflective Mode MINI-BEAM® *Expert*™



EGC-8

Range: 3 m **LED:** P

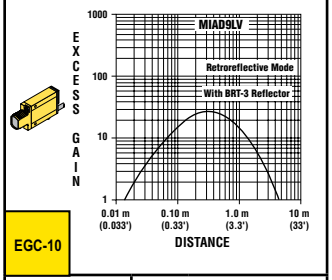
Retroreflective Mode MINI-BEAM® *Expert*™



EGC-9

Range: 1 m **LED:** ■

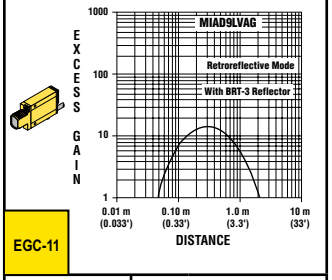
Retroreflective Mode MINI-BEAM® NAMUR



EGC-10

Range: 5 m **LED:** ●

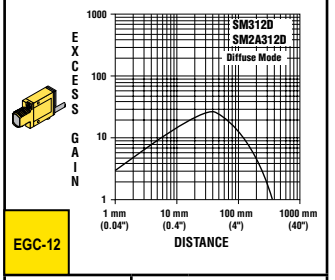
Polarized Retroreflective Mode MINI-BEAM® NAMUR



EGC-11

Range: 2 m **LED:** P

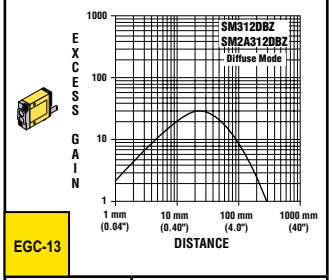
Diffuse Mode MINI-BEAM®



EGC-12

Range: 380 mm **LED:** ○

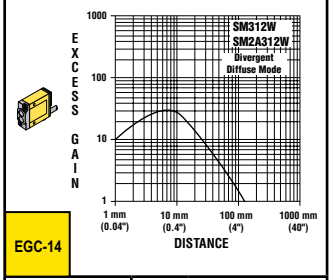
Diffuse Mode MINI-BEAM®



EGC-13

Range: 300 mm **LED:** ○

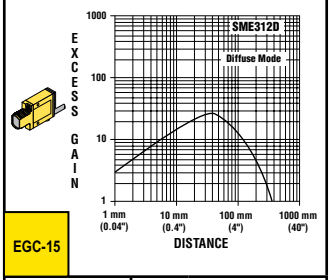
Divergent Diffuse Mode MINI-BEAM®



EGC-14

Range: 130 mm **LED:** ○

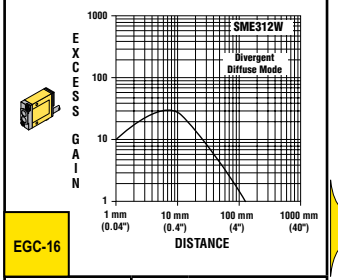
Diffuse Mode MINI-BEAM® *Expert*™



EGC-15

Range: 380 mm **LED:** ○

Divergent Diffuse Mode MINI-BEAM® *Expert*™



EGC-16

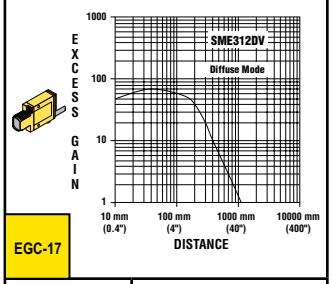
Range: 130 mm **LED:** ○

More on next page

Excess Gain Curves (Diffuse and Convergent mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED ● = Visible Green LED ● = Visible Blue LED ○ = Visible White LED

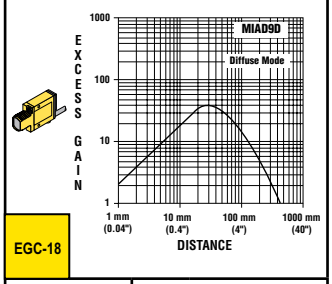
Diffuse Mode MINI-BEAM® *Expert*™



EGC-17

Range: 1100 mm **LED:** ●

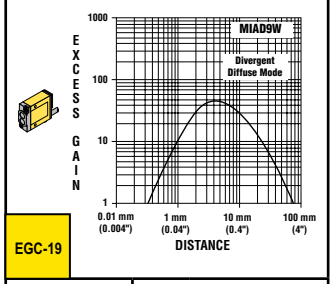
Diffuse Mode MINI-BEAM® NAMUR



EGC-18

Range: 380 mm **LED:** ○

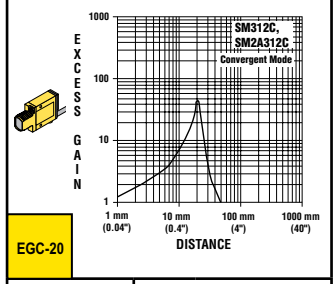
Divergent Diffuse Mode MINI-BEAM® NAMUR



EGC-19

Range: 75 mm **LED:** ○

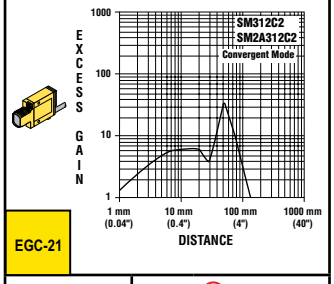
Convergent Mode MINI-BEAM®



EGC-20

Range: 16 mm **LED:** ○

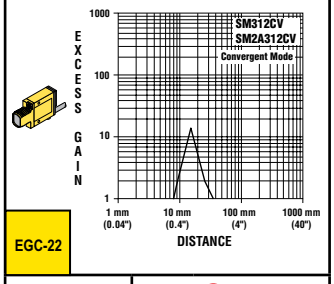
Convergent Mode MINI-BEAM®



EGC-21

Range: 43 mm **LED:** ○

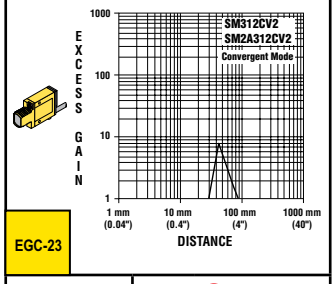
Convergent Mode MINI-BEAM®



EGC-22

Range: 16 mm **LED:** ●

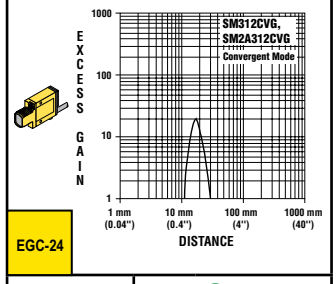
Convergent Mode MINI-BEAM®



EGC-23

Range: 43 mm **LED:** ●

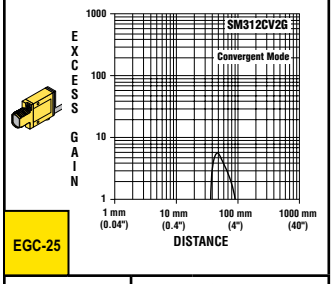
Convergent Mode MINI-BEAM®



EGC-24

Range: 16 mm **LED:** ●

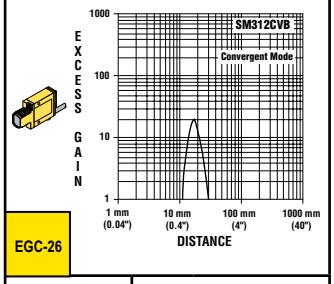
Convergent Mode MINI-BEAM®



EGC-25

Range: 49 mm **LED:** ●

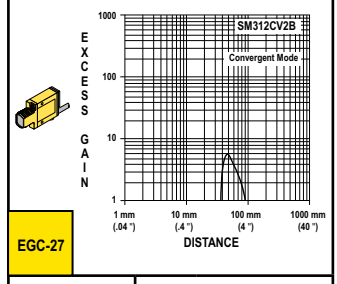
Convergent Mode MINI-BEAM®



EGC-26

Range: 16 mm **LED:** ●

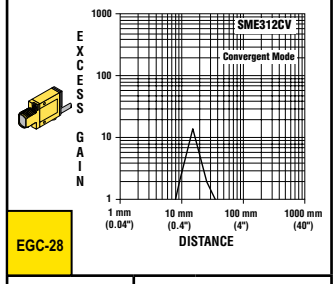
Convergent Mode MINI-BEAM®



EGC-27

Range: 49 mm **LED:** ●

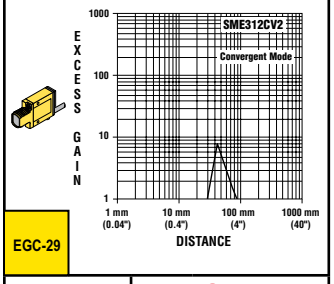
Convergent Mode MINI-BEAM® *Expert*™



EGC-28

Range: 16 mm **LED:** ●

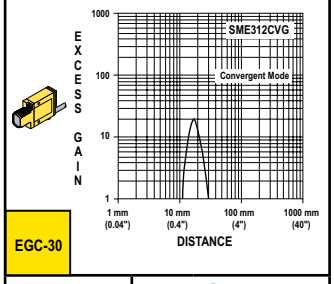
Convergent Mode MINI-BEAM® *Expert*™



EGC-29

Range: 43 mm **LED:** ●

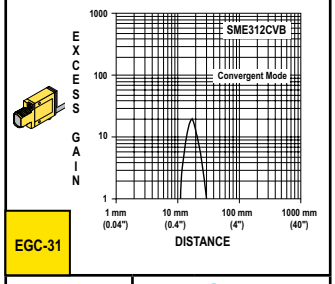
Convergent Mode MINI-BEAM® *Expert*™



EGC-30

Range: 16 mm **LED:** ●

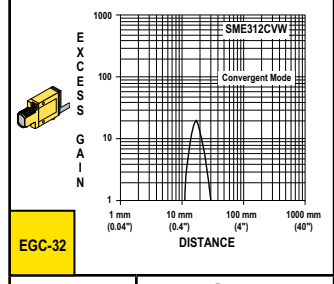
Convergent Mode MINI-BEAM® *Expert*™



EGC-31

Range: 16 mm **LED:** ●

Convergent Mode MINI-BEAM® *Expert*™



EGC-32

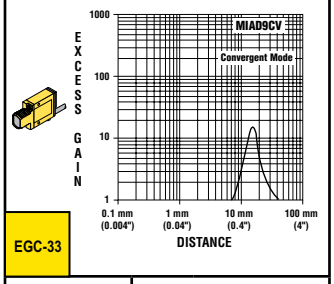
Range: 16 mm **LED:** ○

More on next page

Excess Gain Curves (Convergent and Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED ● = Visible Green LED ● = Visible Blue LED ○ = Visible White LED

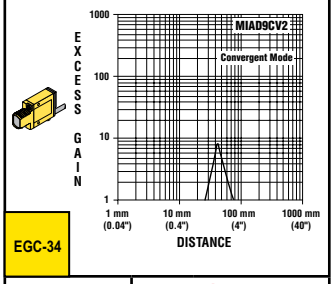
Convergent Mode MINI-BEAM® NAMUR



EGC-33

Range: 16 mm **LED:** ●

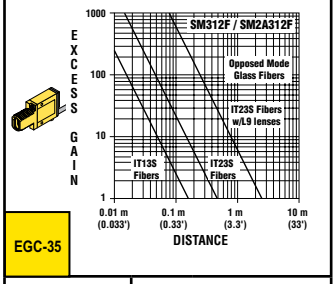
Convergent Mode MINI-BEAM® NAMUR



EGC-34

Range: 43 mm **LED:** ●

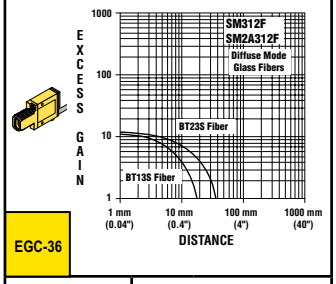
Opposed Mode—Glass Fiber MINI-BEAM®



EGC-35

Range: Varies **LED:** ○

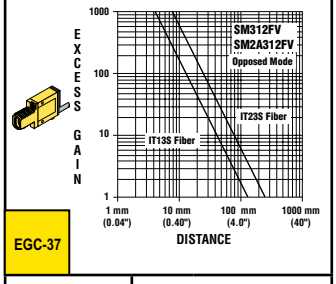
Diffuse Mode—Glass Fiber MINI-BEAM®



EGC-36

Range: Varies **LED:** ○

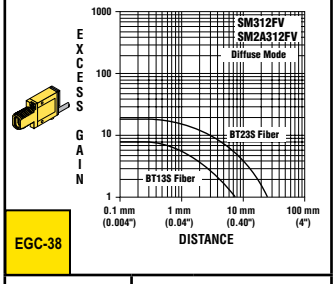
Opposed Mode—Glass Fiber MINI-BEAM®



EGC-37

Range: Varies **LED:** ●

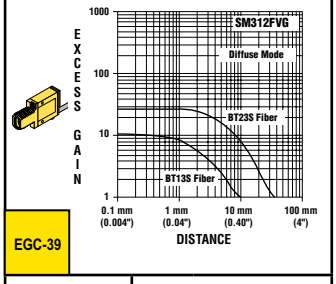
Diffuse Mode—Glass Fiber MINI-BEAM®



EGC-38

Range: Varies **LED:** ●

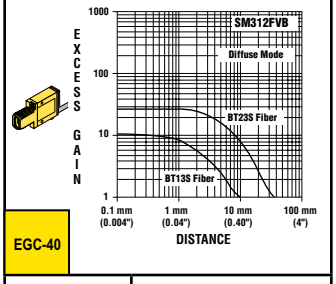
Diffuse Mode—Glass Fiber MINI-BEAM®



EGC-39

Range: Varies **LED:** ●

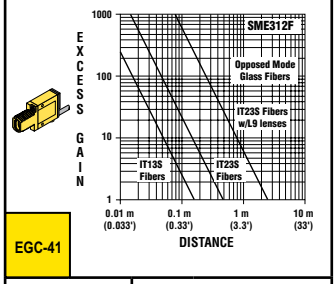
Diffuse Mode—Glass Fiber MINI-BEAM®



EGC-40

Range: Varies **LED:** ●

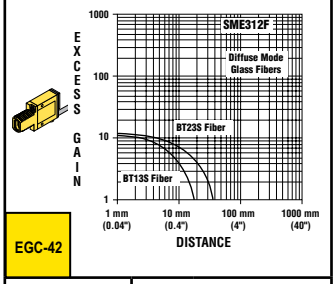
Opposed Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-41

Range: Varies **LED:** ○

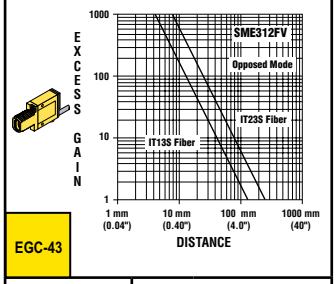
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-42

Range: Varies **LED:** ○

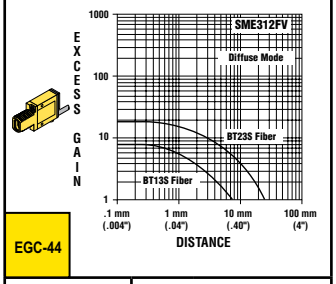
Opposed Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-43

Range: Varies **LED:** ●

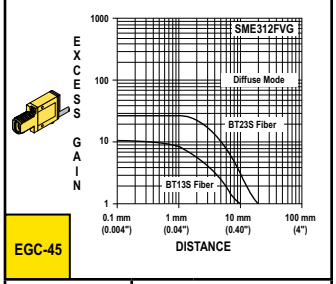
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-44

Range: Varies **LED:** ●

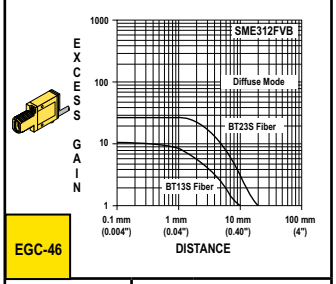
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-45

Range: Varies **LED:** ●

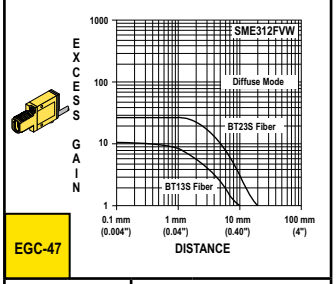
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-46

Range: Varies **LED:** ●

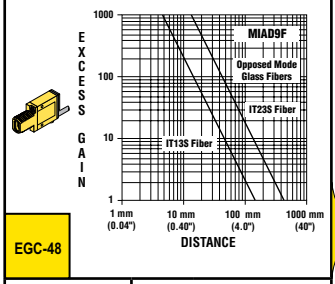
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



EGC-47

Range: Varies **LED:** ○

Opposed Mode—Glass Fiber MINI-BEAM® NAMUR



EGC-48

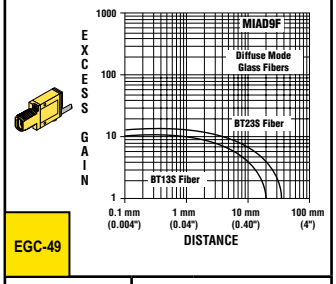
Range: Varies **LED:** ○

More on next page

Excess Gain Curves (Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED ● = Visible Green LED ● = Visible Blue LED ○ = Visible White LED

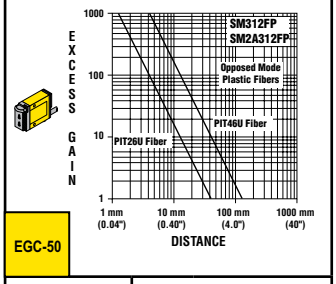
Diffuse Mode—Glass Fiber MINI-BEAM® NAMUR



EGC-49

Range: Varies **LED:** ○

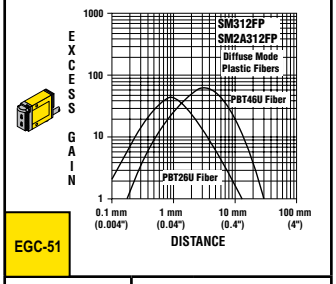
Opposed Mode—Plastic Fiber MINI-BEAM®



EGC-50

Range: Varies **LED:** ●

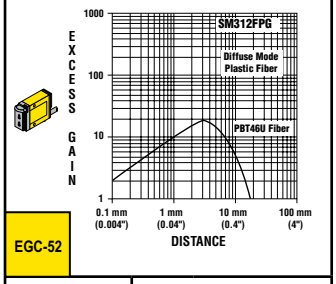
Diffuse Mode—Plastic Fiber MINI-BEAM®



EGC-51

Range: Varies **LED:** ●

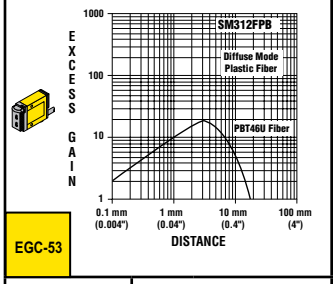
Diffuse Mode—Plastic Fiber MINI-BEAM®



EGC-52

Range: Varies **LED:** ●

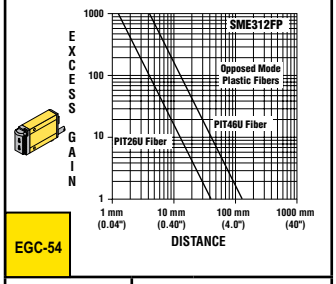
Diffuse Mode—Plastic Fiber MINI-BEAM®



EGC-53

Range: Varies **LED:** ●

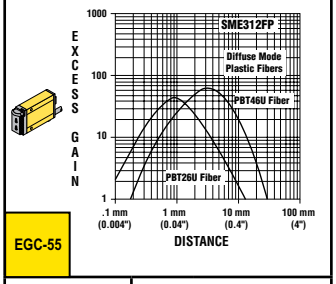
Opposed Mode—Plastic Fiber MINI-BEAM® *Expert*™



EGC-54

Range: Varies **LED:** ●

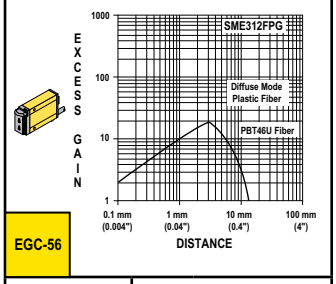
Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



EGC-55

Range: Varies **LED:** ●

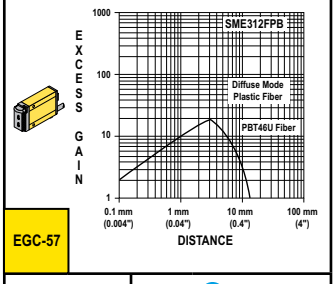
Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



EGC-56

Range: Varies **LED:** ●

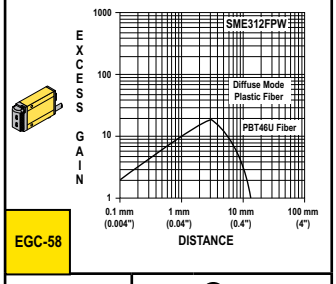
Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



EGC-57

Range: Varies **LED:** ●

Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



EGC-58

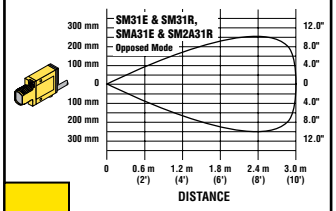
Range: Varies **LED:** ○

Beam Patterns (Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED P = Visible Red LED Polarized ■ = Visible Red Clear Object Detection Polarized

Opposed Mode MINI-BEAM®

Effective Beam: 3.5 mm

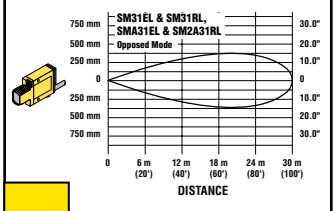


BP-1

Range: 3 m **LED:** ○

Opposed Mode MINI-BEAM®

Effective Beam: 13 mm

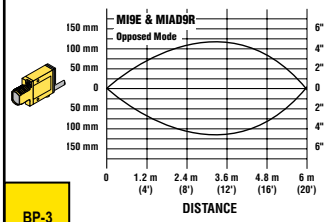


BP-2

Range: 30 m **LED:** ○

Opposed Mode MINI-BEAM® NAMUR

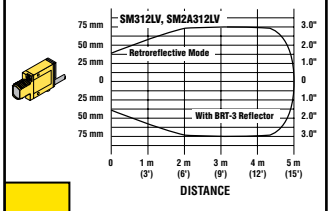
Effective Beam: 13 mm



BP-3

Range: 6 m **LED:** ○

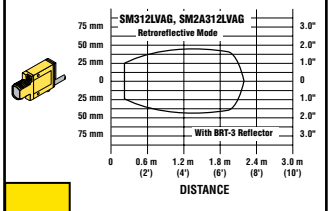
Retroreflective Mode MINI-BEAM®



BP-4

Range: 5 m **LED:** ●

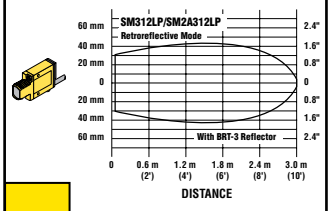
Polarized Retroreflective Mode MINI-BEAM®



BP-5

Range: 2 m **LED:** P

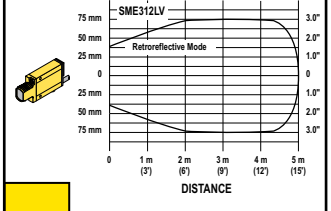
Polarized Retroreflective Mode MINI-BEAM®



BP-6

Range: 3 m **LED:** P

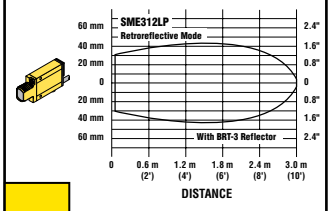
Retroreflective Mode MINI-BEAM® *Expert*™



BP-7

Range: 5 m **LED:** ●

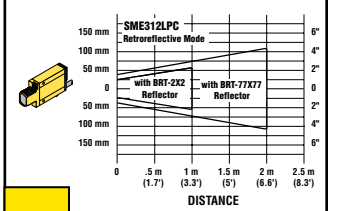
Polarized Retroreflective Mode MINI-BEAM® *Expert*™



BP-8

Range: 3 m **LED:** P

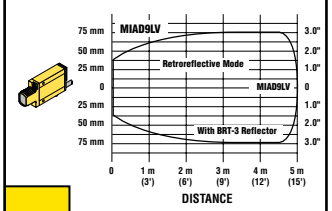
Retroreflective Mode MINI-BEAM® *Expert*™



BP-9

Range: 1 m **LED:** ■

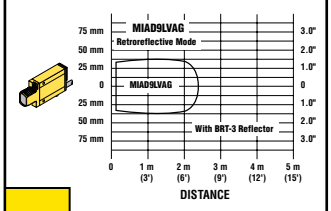
Retroreflective Mode MINI-BEAM® NAMUR



BP-10

Range: 5 m **LED:** ●

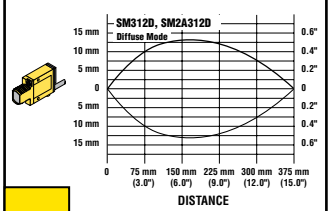
Polarized Retroreflective Mode MINI-BEAM® NAMUR



BP-11

Range: 2 m **LED:** P

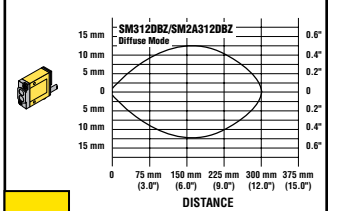
Diffuse Mode MINI-BEAM®



BP-12

Range: 380 mm **LED:** ○

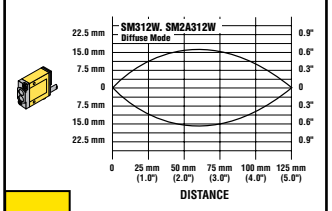
Diffuse Mode MINI-BEAM®



BP-13

Range: 300 mm **LED:** ○

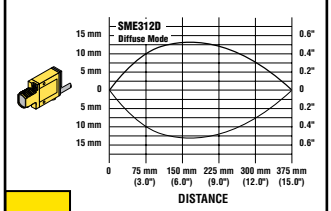
Divergent Diffuse Mode MINI-BEAM®



BP-14

Range: 130 mm **LED:** ○

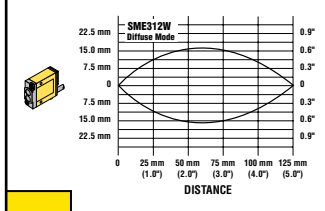
Diffuse Mode MINI-BEAM® *Expert*™



BP-15

Range: 380 mm **LED:** ○

Diffuse Mode MINI-BEAM® *Expert*™



BP-16

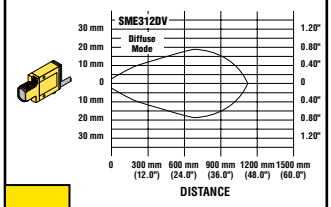
Range: 130 mm **LED:** ○

More on next page

Beam Patterns (Convergent and Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED ● = Visible Green LED ● = Visible Blue LED ○ = Visible White LED

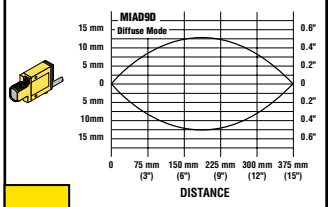
Diffuse Mode MINI-BEAM® *Expert*™



BP-17

Range: 1100 mm **LED:** ●

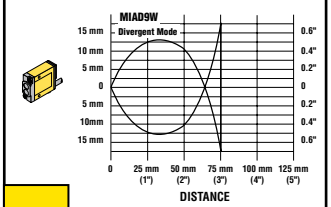
Diffuse Mode MINI-BEAM® NAMUR



BP-18

Range: 380 mm **LED:** ○

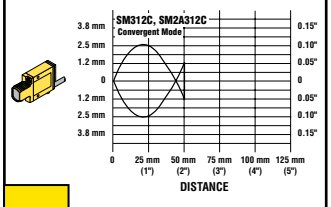
Divergent Diffuse Mode MINI-BEAM® NAMUR



BP-19

Range: 75 mm **LED:** ○

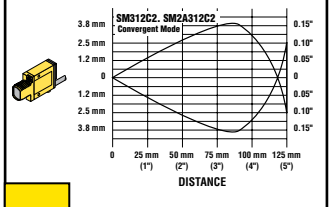
Convergent Mode MINI-BEAM®



BP-20

Range: 16 mm **LED:** ○

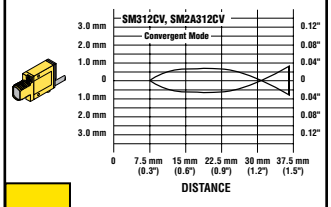
Convergent Mode MINI-BEAM®



BP-21

Range: 43 mm **LED:** ○

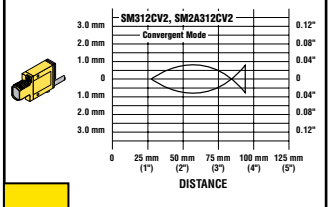
Convergent Mode MINI-BEAM®



BP-22

Range: 16 mm **LED:** ●

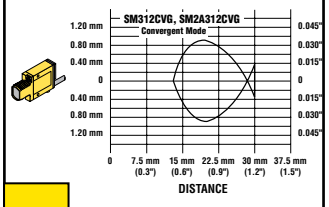
Convergent Mode MINI-BEAM®



BP-23

Range: 43 mm **LED:** ●

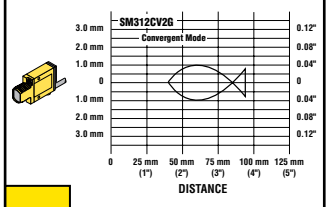
Convergent Mode MINI-BEAM®



BP-24

Range: 16 mm **LED:** ●

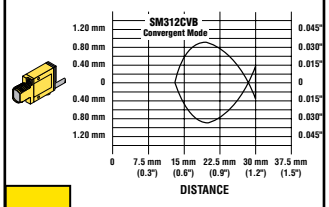
Convergent Mode MINI-BEAM®



BP-25

Range: 49 mm **LED:** ●

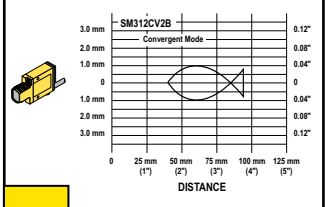
Convergent Mode MINI-BEAM®



BP-26

Range: 16 mm **LED:** ●

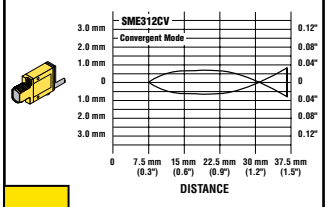
Convergent Mode MINI-BEAM®



BP-27

Range: 49 mm **LED:** ●

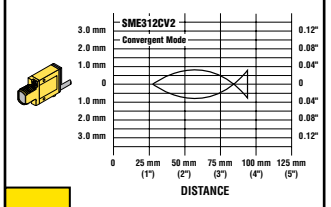
Convergent Mode MINI-BEAM® *Expert*™



BP-28

Range: 16 mm **LED:** ●

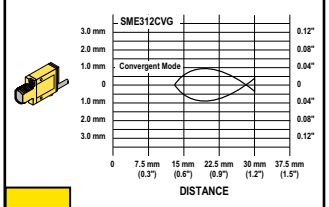
Convergent Mode MINI-BEAM® *Expert*™



BP-29

Range: 43 mm **LED:** ●

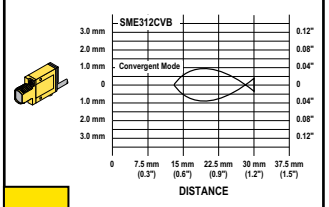
Convergent Mode MINI-BEAM® *Expert*™



BP-30

Range: 16 mm **LED:** ●

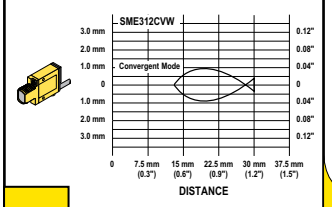
Convergent Mode MINI-BEAM® *Expert*™



BP-31

Range: 16 mm **LED:** ●

Convergent Mode MINI-BEAM® *Expert*™



BP-32

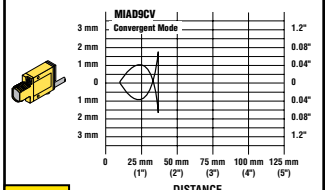
Range: 16 mm **LED:** ○

More on next page

Beam Patterns (Convergent and Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED ● = Visible Green LED ● = Visible Blue LED ○ = Visible White LED

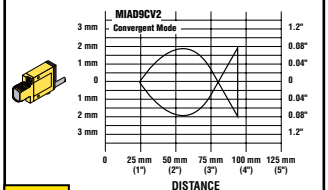
Convergent Mode MINI-BEAM® NAMUR



BP-33

Range: 16 mm **LED:** ●

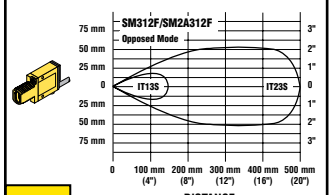
Convergent Mode MINI-BEAM® NAMUR



BP-34

Range: 43 mm **LED:** ●

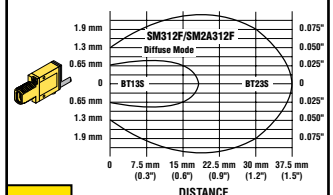
Opposed Mode—Glass Fiber MINI-BEAM®



BP-35

Fiber: Individual **LED:** ○

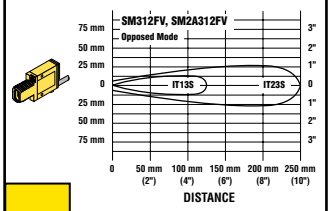
Diffuse Mode—Glass Fiber MINI-BEAM®



BP-36

Range: Varies **LED:** ○

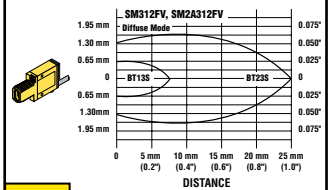
Opposed Mode—Glass Fiber MINI-BEAM®



BP-37

Range: Varies **LED:** ●

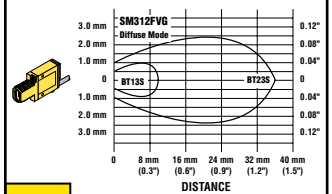
Diffuse Mode—Glass Fiber MINI-BEAM®



BP-38

Range: Varies **LED:** ●

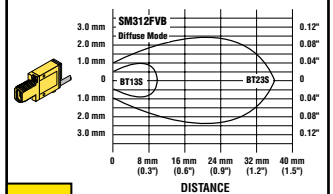
Diffuse Mode—Glass Fiber MINI-BEAM®



BP-39

Range: Varies **LED:** ●

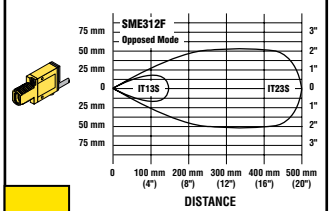
Diffuse Mode—Glass Fiber MINI-BEAM®



BP-40

Range: Varies **LED:** ●

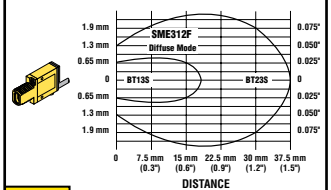
Opposed Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-41

Range: Varies **LED:** ○

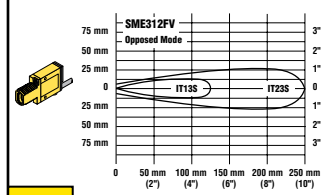
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-42

Range: Varies **LED:** ○

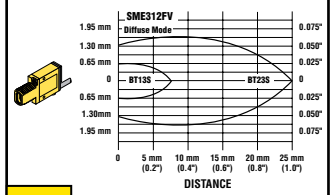
Opposed Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-43

Range: Varies **LED:** ●

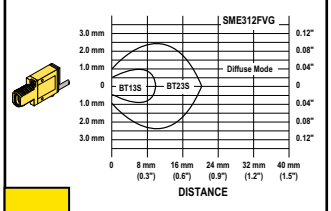
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-44

Range: Varies **LED:** ●

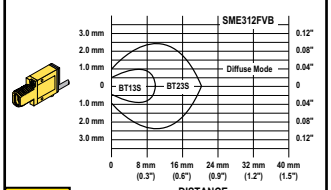
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-45

Range: Varies **LED:** ●

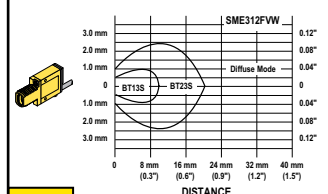
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-46

Range: Varies **LED:** ●

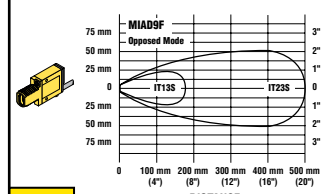
Diffuse Mode—Glass Fiber MINI-BEAM® *Expert*™



BP-47

Range: Varies **LED:** ○

Opposed Mode—Glass Fiber MINI-BEAM® NAMUR



BP-48

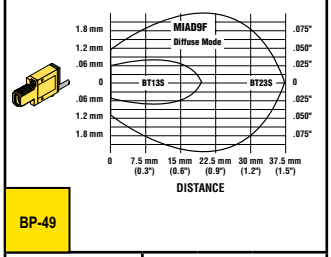
Range: Varies **LED:** ○

More on next page

Beam Patterns (Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED ● = Visible Green LED ● = Visible Blue LED ○ = Visible White LED

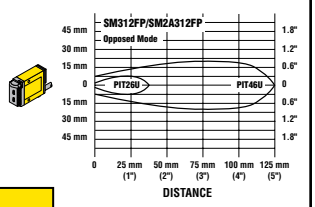
Diffuse Mode—Glass Fiber MINI-BEAM® NAMUR



BP-49

Range: Varies **LED:** ○

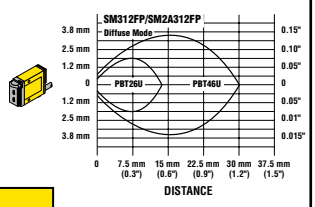
Opposed Mode—Plastic Fiber MINI-BEAM®



BP-50

Range: Varies **LED:** ●

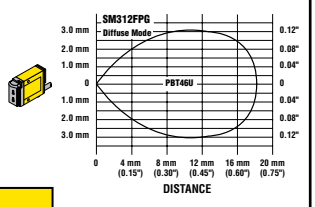
Diffuse Mode—Plastic Fiber MINI-BEAM®



BP-51

Range: Varies **LED:** ●

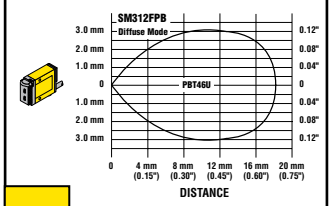
Diffuse Mode—Plastic Fiber MINI-BEAM®



BP-52

Range: Varies **LED:** ●

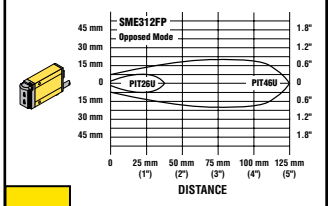
Diffuse Mode—Plastic Fiber MINI-BEAM®



BP-53

Range: Varies **LED:** ●

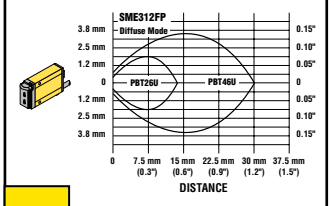
Opposed Mode—Plastic Fiber MINI-BEAM® *Expert*™



BP-54

Range: Varies **LED:** ●

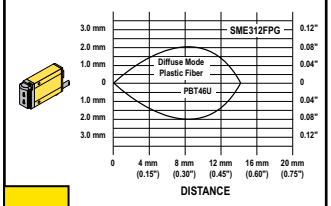
Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



BP-55

Range: Varies **LED:** ●

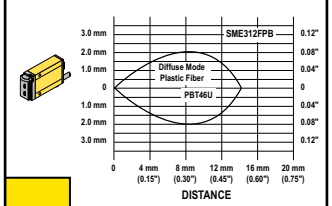
Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



BP-56

Range: Varies **LED:** ●

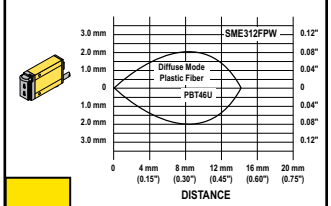
Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™



BP-57

Range: Varies **LED:** ●

Diffuse Mode—Plastic Fiber MINI-BEAM® *Expert*™

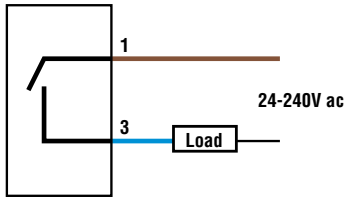


BP-58

Range: Varies **LED:** ○

AC Hookups

AC01 2-wire AC

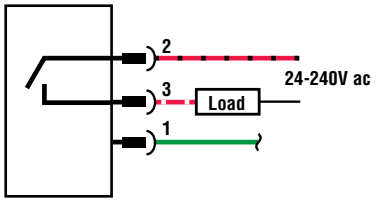


NOTE: Wire a load in series before powering up sensor.

Key

1 = Brown
3 = Blue

AC02 2-wire AC with Quick-Disconnect Cable



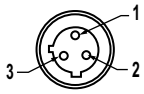
NOTE: Wire a load in series before powering up sensor.

Key

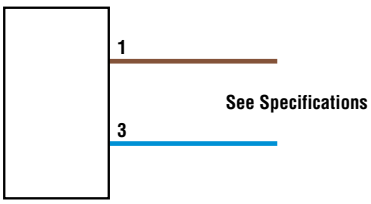
1 = Green†
2 = Red/Black
3 = Red/White

† Not Used

3-Pin Micro



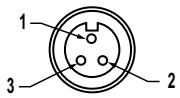
AC03 Emitters



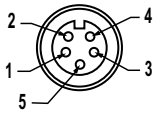
Key

1 = Brown
3 = Blue

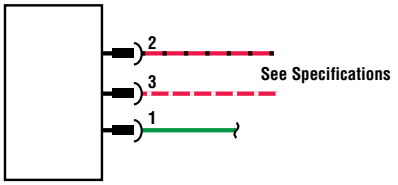
3-Pin Mini



5-Pin Mini



AC04 Emitters with Quick-Disconnect Cable

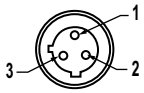


Key

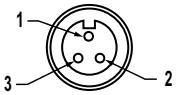
1 = Green†
2 = Red/Black
3 = Red/White

† Not Used

3-Pin Micro



3-Pin Mini



More on next page