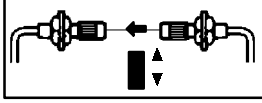
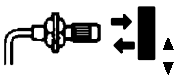
OMRON®

Sensing Distance		Supply Voltage	Output	
		Universal 24 to 240 VAC 12 to 240 VDC	 3 A, 250 VAC	 400 mA 240 VAC 100 VDC

General-Purpose Fiber Optic Sensor

E3JU-X/XR

Compact Limit Switch Style with Universal Power Supply

- FET output allows for Solid State Switching of AC or DC
- Universal AC/DC Power Supply
- Flexible M30 or direct hole mounting
- Choose cable or connector types
- Sensitivity adjustment standard on all models
- Wide selection of timing options
- UL/CSA approved
- NEMA 4X, IP66 rated
- CE approval pending

Ordering Information

■ AMPLIFIERS

Light Source			Infrared LED	Red LED
Fiber Optic Cable Attachment			E32 Series Large Diameter Fiber	E32 Series Small Diameter Fiber
Output	Connection	Timer	**Part Number**	**Part Number**
Relay	Cable	No	**E3JU-XM4**	**E3JU–XRM4**
		Yes	**E3JU-XM4T**	**E3JU-XRM4T**
FET	Cable	No	**E3JU-XP4**	**E3JU-XRP4**
		Yes	**E3JU-XP4T**	**E3JU-XRP4T**
Relay	Connector	No	**E3JU-XM4-MN**	**E3JU-XRM4-MN**
		Yes	**E3JU-XM4T-MN**	**E3JU-XRM4T-MN**
FET	Connector	No	**E3JU-XP4-MN**	**E3JU-XRP4-MN**
		Yes	**E3JU-XP4T-MN**	**E3JU-XRP4T-MN**

■ ACCESSORIES

Description	**Part Number**
Mounting bracket	**E39-LU1**

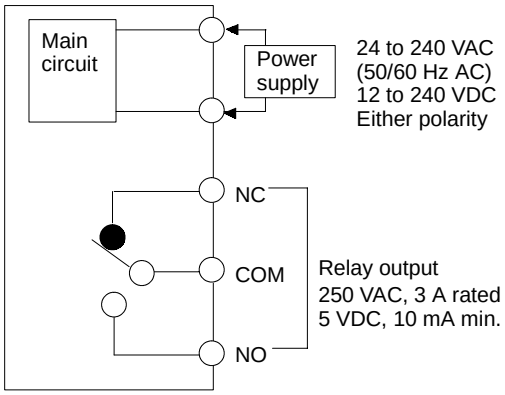
Specifications

Part number			E3JU-XR□4□-□	E3JU-X□4□-□
Supply voltage			24 to 240 VAC ±10%, 50/60 Hz; 12 to 240 VDC, 10% max. peak-to-peak ripple	
Power consumption (up to 264 VDC)			Contact relay type 3.5 W max., Solid state relay type 3W max.	
Required fiber optic cables			E32-series (2.2 mm dia.)	E32-series (4.75 mm dia.)
Light source			Red LED (660 mm)	Infrared LED (950 mm)
Operation mode			Light-ON/Dark-ON, switch selectable	
Sensitivity			Adjustable	
Mutual interference protection			Provided	
Contact output	Contact relay	Type	SPDT relay	
		Max. load	3 A, 250 VAC; 30 VDC rated (p.f.=1)	
		Min. load	10 mA, 5 VDC minimum	
		Response time	12 ms ON (6 ms typ.), 12 ms OFF (5 ms typ.); models without timer and timer models set to no timer: 0.1 to 10 sec (adjustable). On-delay, Off-delay, On/Off delay, one-shot, delayed one-shot (Timer models).	
	Solid state relay	Type	Power MOSFET relay	
		Range	400 mA AC/DC (600 mA up to 40° C), 240 VAC., 100 VDC rated	
		Response time	8 ms on, 12 ms off max. (models without timers and timer models set to no timer) 0.1 to 10 sec (adjustable). On-delay, Off-delay, On/Off delay, one-shot, delayed one-shot (Timer models).	
Timer functions		Type/range	ON-delay, OFF-delay, ON/OFF delay, one-shot, delayed one-shot; switch selectable/0.1 to 10 seconds	
Circuit protection		Output short-circuit	Not provided	
Indicators			Light incident (red LED), output operation (yellow LED), stability (green LED)	
Materials		Case	Plastic ABS/PC	
		Holder	Plastic ABS/PC	
		Clamp	Plastic POM	
		Cover	Plastic PC	
Mounting			Two M5 front-mounting through holes. M30 externally threaded base and 1/2-14 NPSM internal threads for cable type: conduit torque not to exceed 100 inch lbs.	
Connections		Pre-wired	600 V rated; AWG 20: 4 wire cables; AWG 21: 5 wire cables	
		Connector	Mini-change type connector: 4 and 5 pins	
Weight		Cable type	300g	
		Connector type	125g	
Enclosure ratings		UL	Type 1	
		NEMA	1, 2, 3, 4X, 5, 12	
		IEC 144	IP66	
Approvals		UL	Listing E41515	
		CSA	Certification LR45951	
Ambient temperature		Operating	-25° to 55° C (-13° to 131° F)	
Ambient temperature		Storage	-40° to 70° C (-40° to 158° F)	

■ OUTPUT CIRCUIT DIAGRAMS

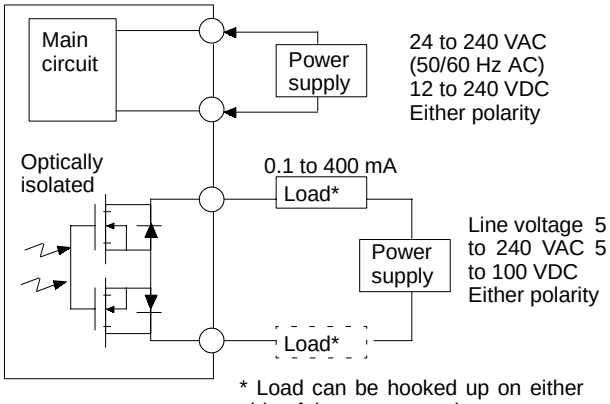
Relay output types

E3JU-□M4□-□



Solid state relay output types

E3JU-□P4□-□

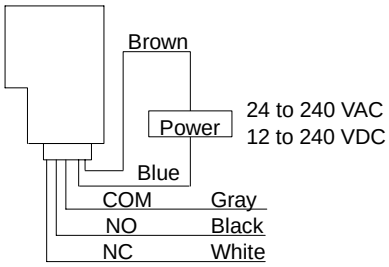


* Load can be hooked up on either side of the power supply.

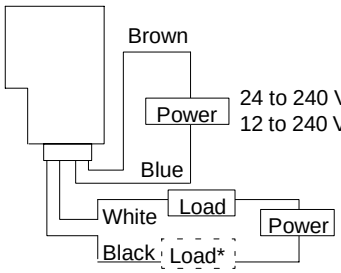
■ CONNECTIONS

Prewired Types

Relay output types E3JU-□M4□



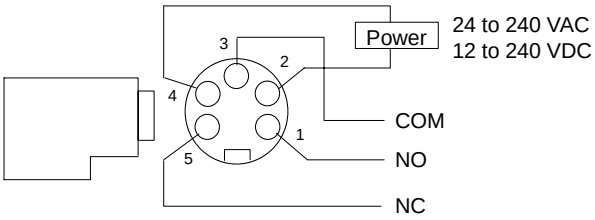
Solid State Relay output types E3JU-□P4□



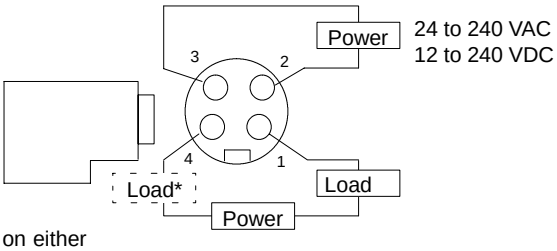
* Load can be hooked up on either side of the power supply.

Connector Types

Relay output types E3JU-□M4□-MN

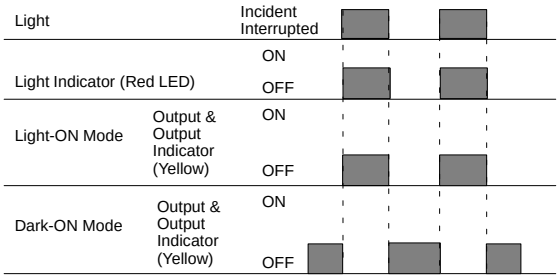


Solid State Relay output types E3JU-□P4□-MN

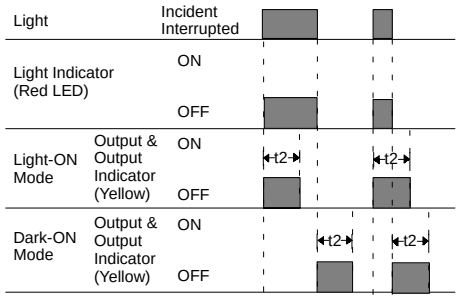


■ TIMING CHART

Sensor without timer

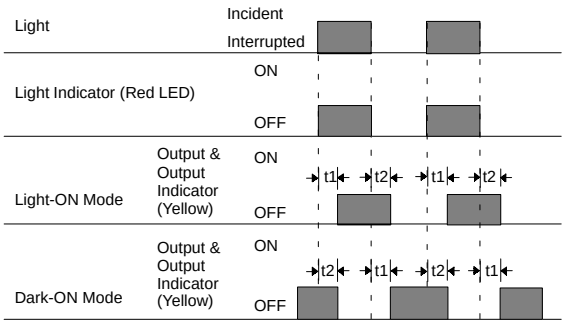


One-shot timer

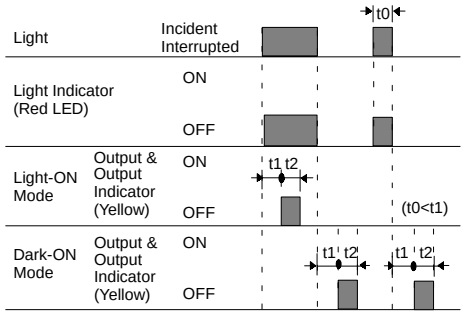


Sensor with timer

Timer Mode: ON-delay (only T1), OFF-delay (only T2), ON/OFF delay (Both T1 and T2)



ON-delayed one-shot timer



t1 = ON delay time
t2 = One-shot time

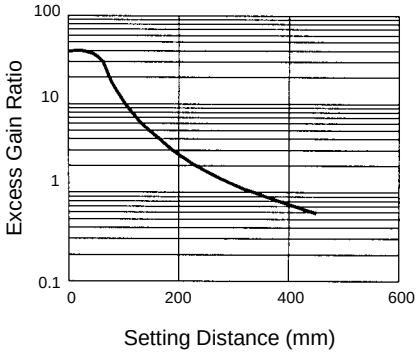
Engineering Data

■ EXCESS GAIN RATIO

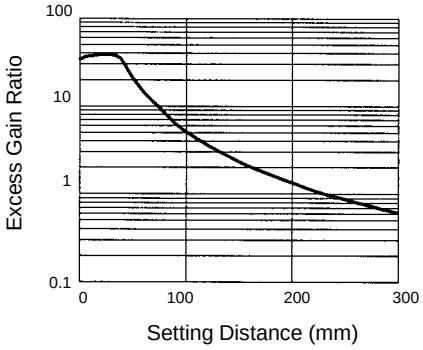
E3JU–XR□4□–□

Through-beam type

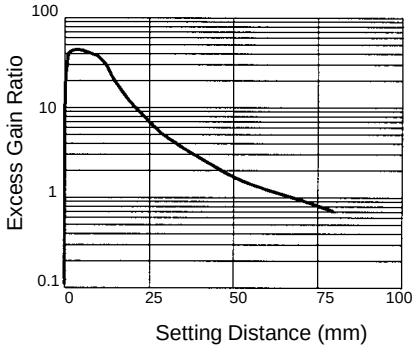
E32-TC200



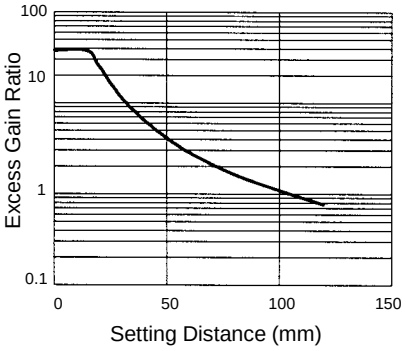
E32-T11



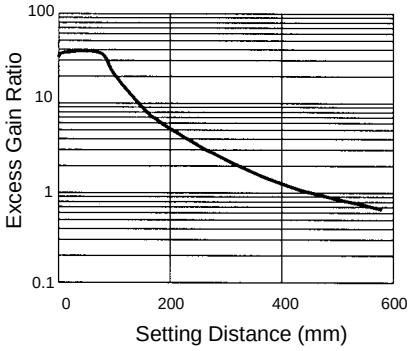
E32-T21



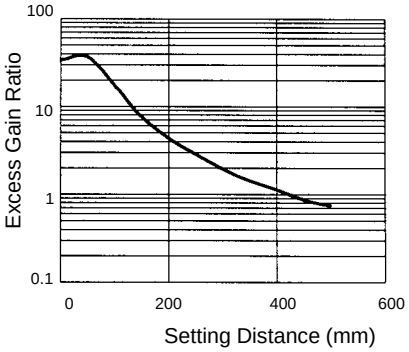
E32-T22



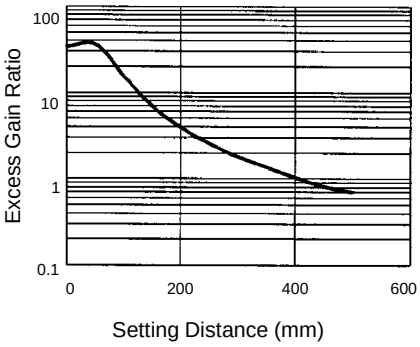
E32-T51



E32-UTAT1-3F

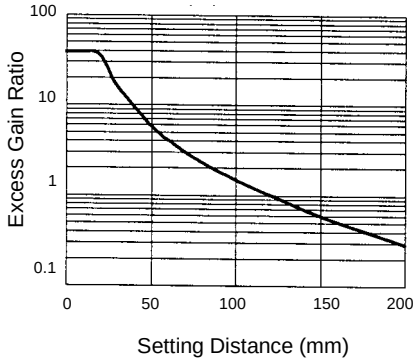


E32-UTAT1-6F

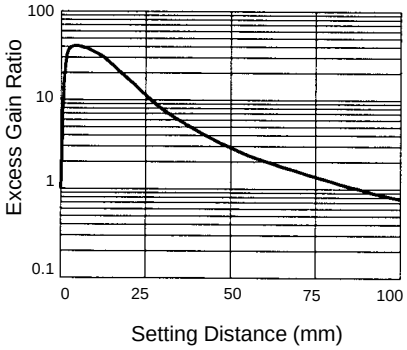


Diffuse type

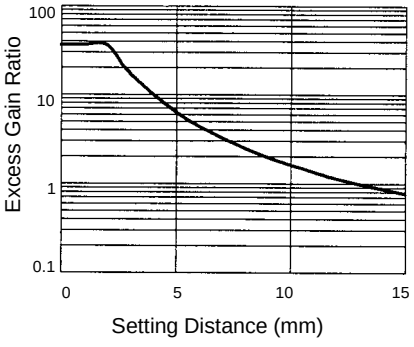
E32-D200



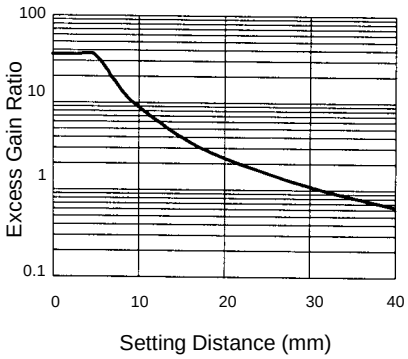
E32-D11



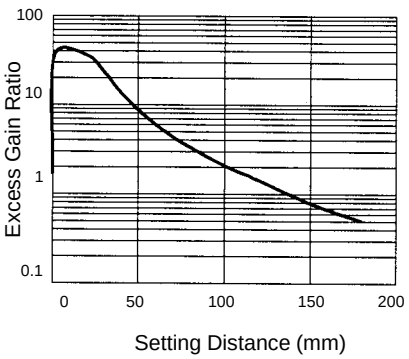
E32-D21



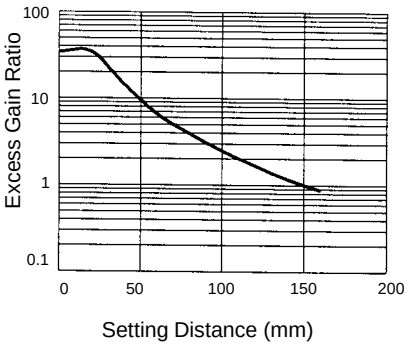
E32-D32



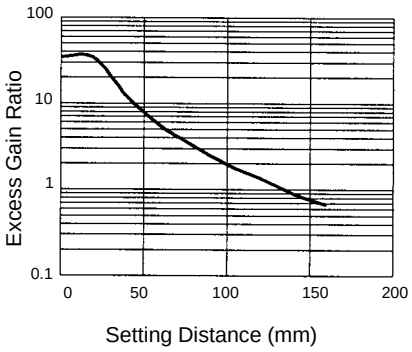
E32-D51



E32-UDAT1-3F



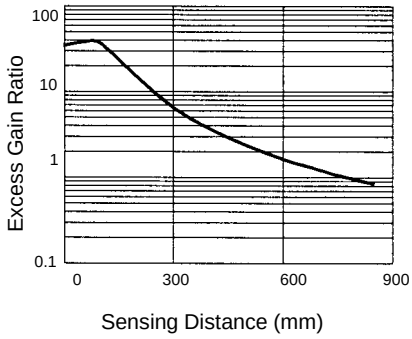
E32-UDAT1-6F



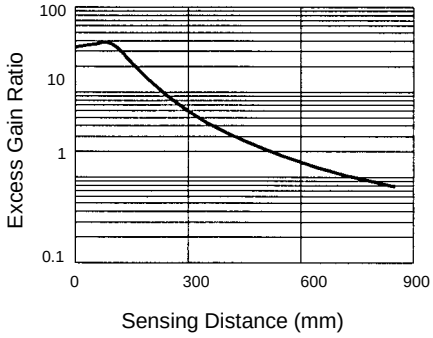
E3JU–X□4□–□

Through-beam type

E32-UTBT1-3F

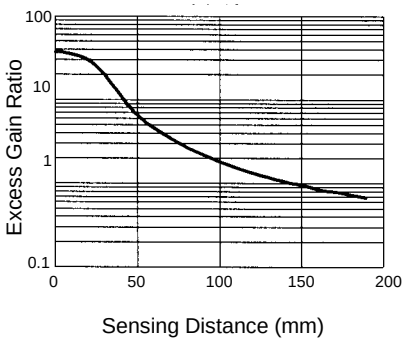


E32-UTBT1-6F

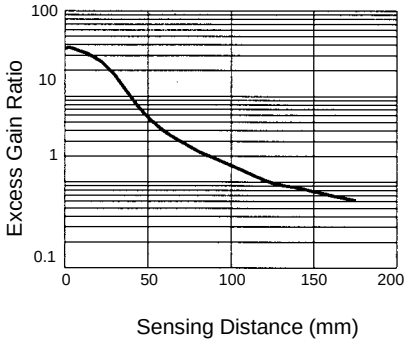


Diffuse type

E32-UDBT1-3F



E32-UDBT1-6F

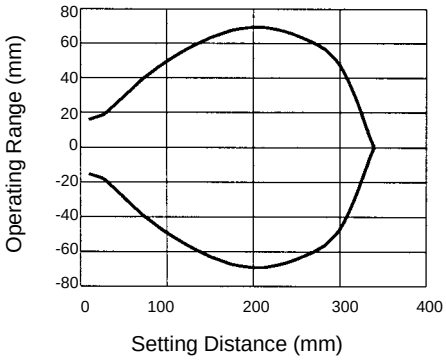


■ OPERATING RANGE

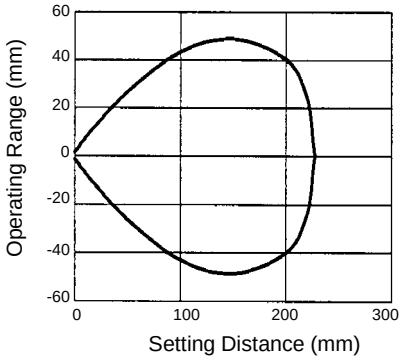
E3JU–XR□4□–□

Through-beam type

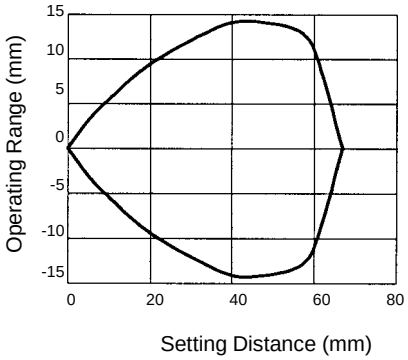
E32-TC200



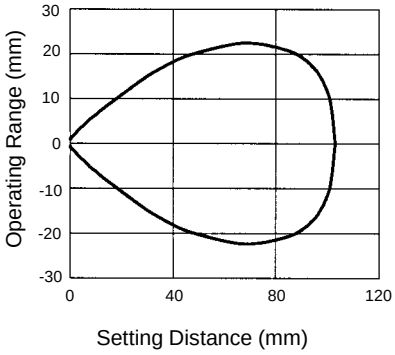
E32-T11



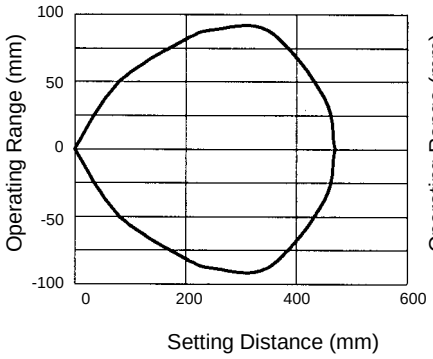
E32-T21



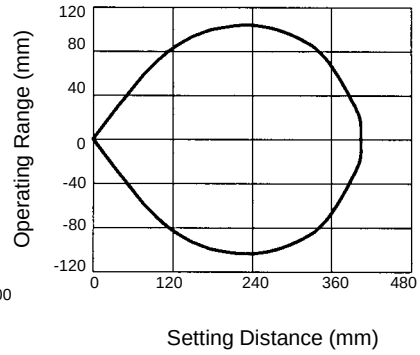
E32-T22



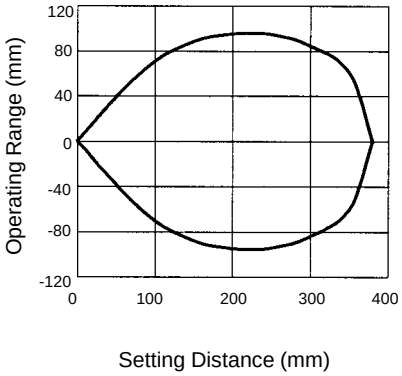
E32-T51



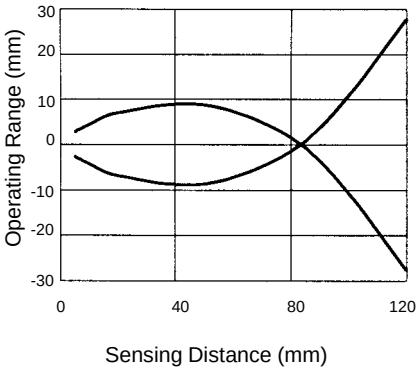
E32-UTAT1-3F



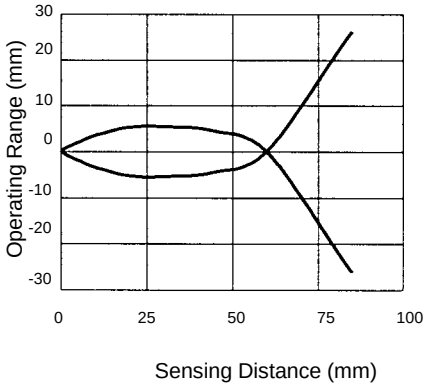
E32-UTAT1-6F



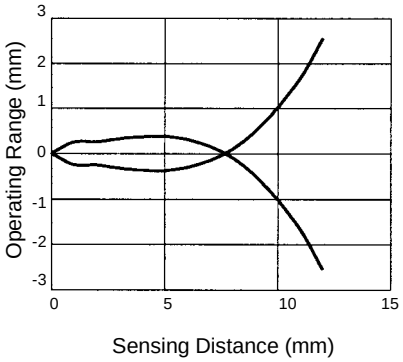
E32-DC200



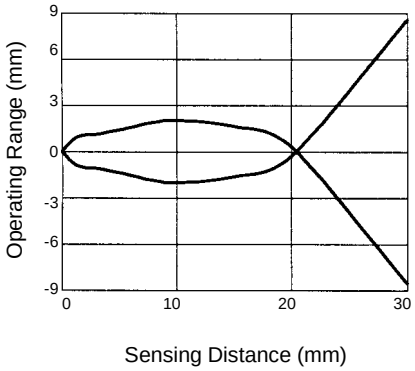
E32-D11



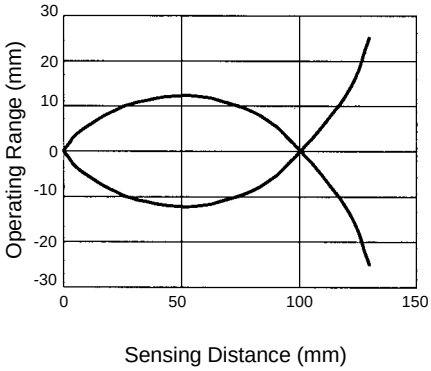
E32-D21



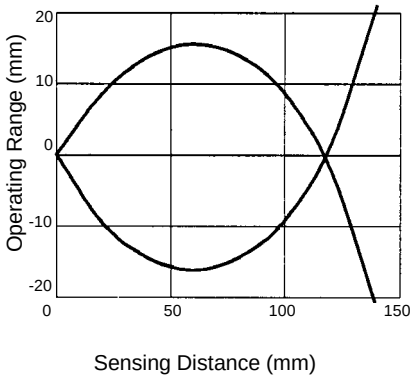
E32-D32



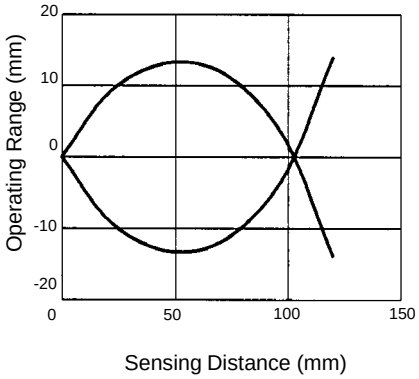
E32-D51



E32-UDAT1-3F



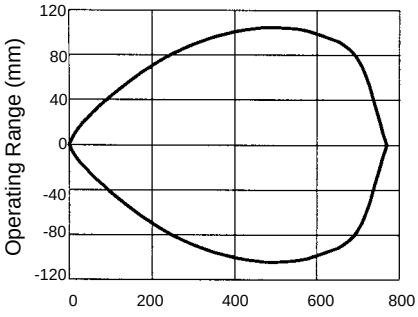
E32-UDAT1-6F



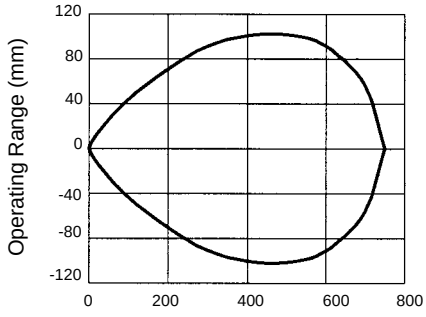
E3JU–X□4□–□

Through-beam type

E32-UTBT1-3F

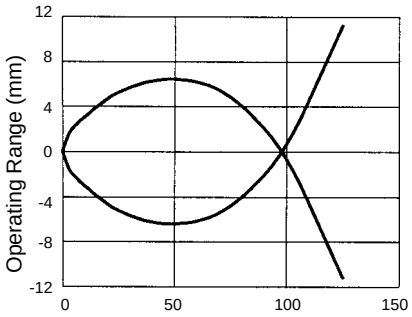


E32-UTBT1-6F

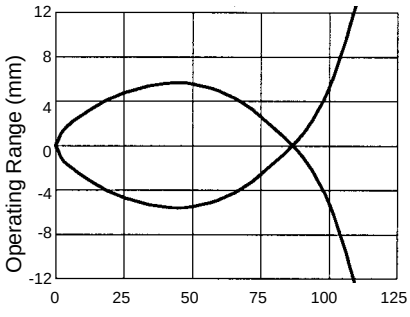


Diffuse type

E32-UDBT1-3F



E32-UDBT1-6F

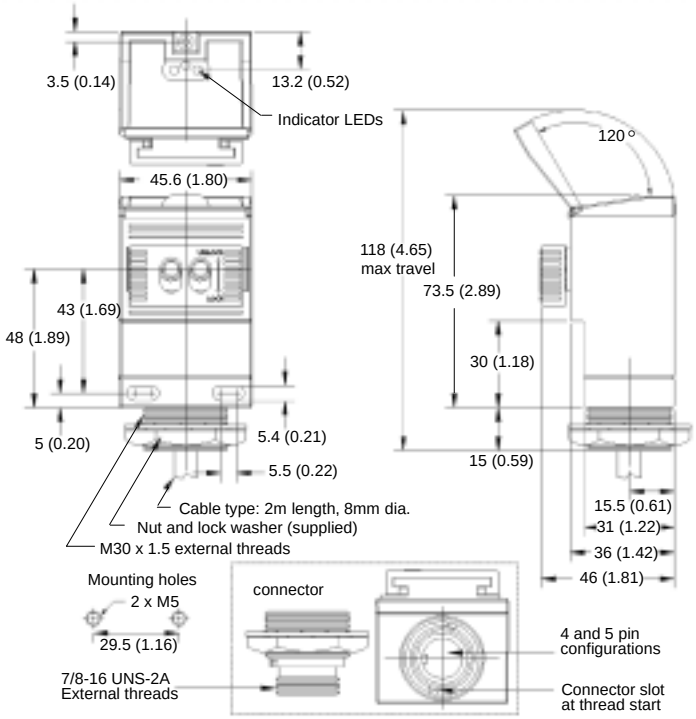


Dimensions

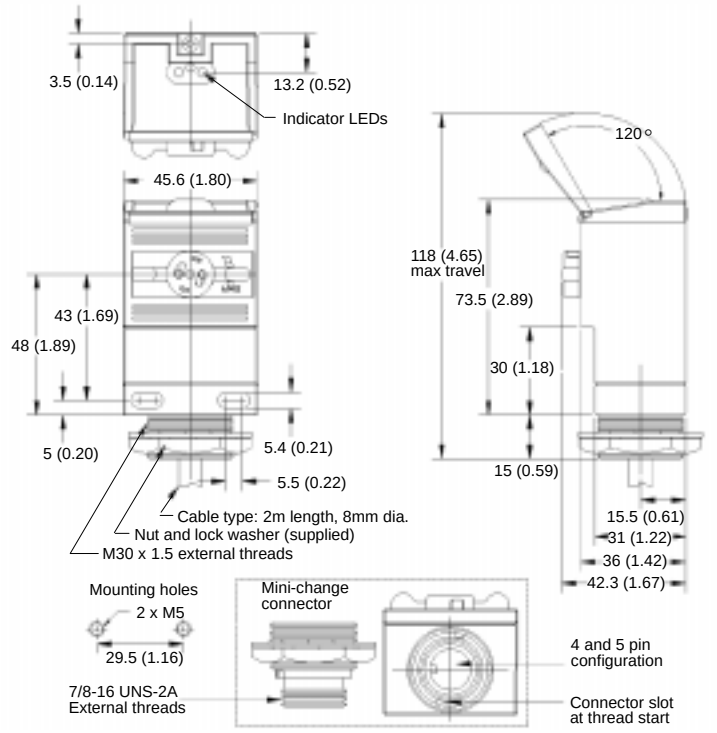
Unit: mm (inch)

■ AMPLIFIERS

E3JU-X□4□-□



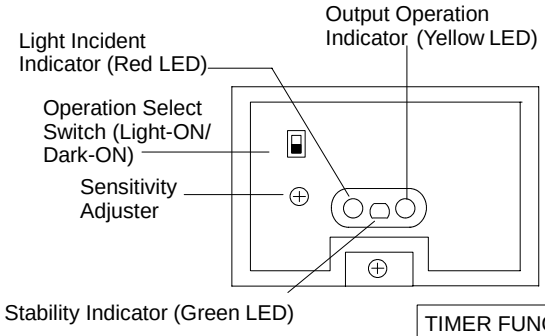
E3JU-XR□4□-□



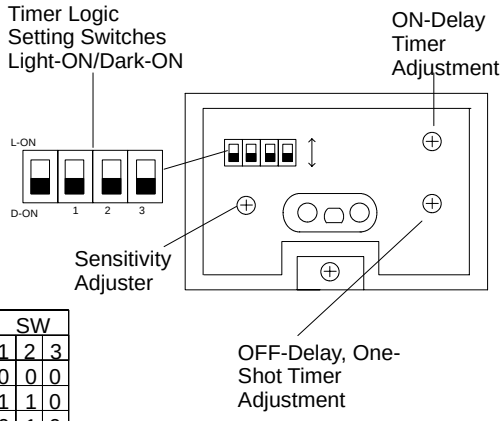
Operation

■ OPERATION PANEL LAYOUT

Sensor without timer E3JU-□□4-□



Sensor with timer E3JU-□□4T-□



TIMER FUNCTION	SW		
	1	2	3
NO TIMER	0	0	0
ON/OFF-DELAY	1	1	0
ON-DELAY	0	1	0
OFF-DELAY	1	0	0
ON-DELAY + ONE-SHOT	1	1	1
ONE-SHOT	1	0	1

■ SENSITIVITY ADJUSTMENT

Diffuse Reflective Type

Place the target object in the desired position for detection and set the sensitivity adjustment to maximum.

Maximum stability is achieved by varying both horizontal and vertical alignment of the fiber until it is in the center of a range in which both the LIGHT (Red) and STABILITY (Green) indicators illuminate (Light-ON mode).

Remove the object and ensure the LIGHT indicator turns off and the STABILITY indicator illuminates. If the LIGHT indicator does not turn off, decrease the sensitivity and check that there is no other object in line with the fiber.

Ensure the STABILITY indicator illuminates in both detecting and non-detecting states. (Refer to Table below.)

Through-beam Type

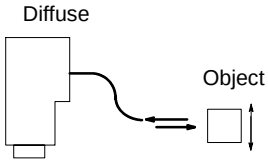
Turn the sensitivity adjustment to maximum.

Position the fiber optic cable ends opposite each other and adjust the horizontal and vertical alignment until the STABILITY indicator (Green), LIGHT indicator (Red), and OUTPUT indicator (Yellow) turn on (Light-ON mode).

Once the desired position is set, introduce the object to the beam pattern and ensure that the LIGHT and OUTPUT indicators turn off and the STABILITY indicator illuminates.

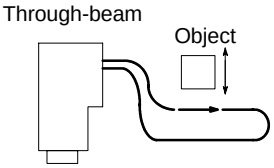
If the LIGHT and OUTPUT indicators do not turn off, decrease the sensitivity until the desired result is achieved.

Ensure that the STABILITY indicator illuminates in both detecting and non-detecting states. (Refer to Table below.)



Indicators	Incident	Interrupt
Light (Red)	ON	OFF
Stability (Green)	ON	ON
Output (Yellow)	ON	OFF

LED Status (Light-ON Mode)



■ FIBER CONNECTION AND DISCONNECTION

E3JU-X□4□-□

Uses E32 Series fiber optic cable with grooved tip (4.75 mm diameter).

Make sure the clamp is raised in the unlocked position.

Firmly insert the fiber optic cable tips into the amplifier.

Move the clamp down to the locked position (the ridges in the clamp should slide into the grooves of the tips and hold the fiber cables in place).

To remove the fiber cables, raise the clamp to the unlocked position and carefully pull the fiber cables out of the unit.

E3JU-XR□4□-□

Uses E32 Series fiber optic cable (2.2 mm diameter).

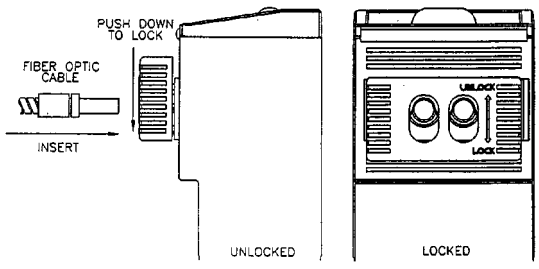
Make sure the clamp is placed in the unlocked position

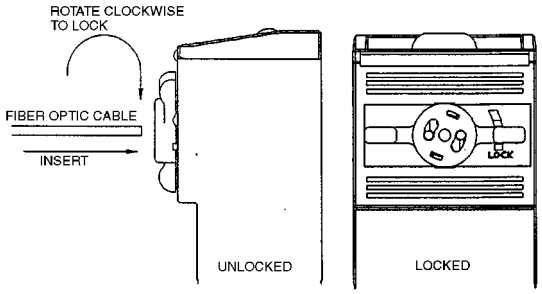
Carefully insert the fiber cable into the amplifier until it reaches the sensing elements.

Caution: The amplifier may be damaged if excessive force is used when inserting the fiber cables.

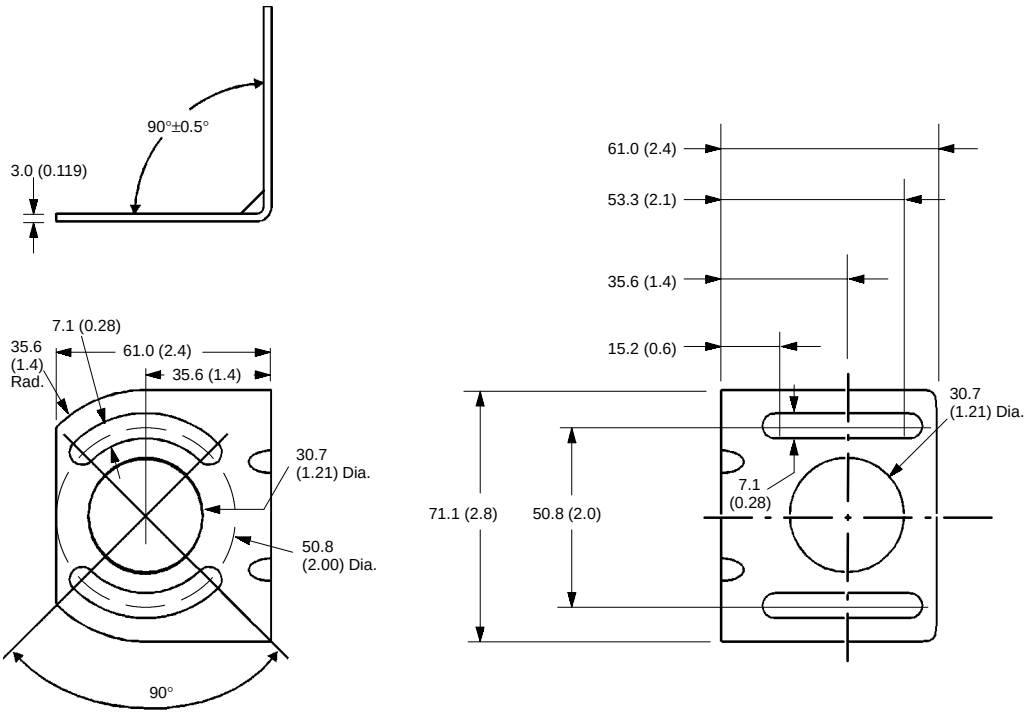
Rotate the clamp to the locked position to secure the fiber cables in place.

To remove the fiber cables, rotate the clamp to the unlocked position and carefully pull the fiber cables out of the unit.





■ MOUNTING BRACKET E39-LU1



Mini Change Connector Cables

■ BRAD HARRISON MINI CHANGE CONNECTOR CABLES

Part Number	Length	Straight	Right Angle
5-Pole Female Connectors (for E3JU-□M4□-MN)	6 foot	41307	41307-90
	12 foot	41308	41308-90
	20 foot	41322	41322-90
4-Pole Female Connectors (for E3JU-□P4□-MN)	6 foot	41108	41111-90
	12 foot	41109	41112-90
	20 foot	41177	41177-90

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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