

# Replacement

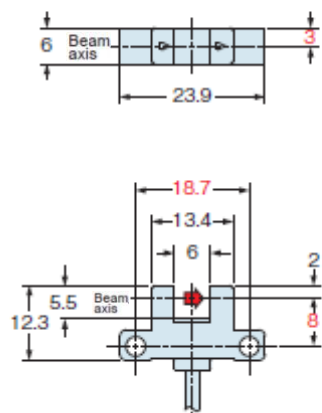
PM-□4 by PM-□5 Series

# Replacement of PM-24 Series

Manufacture		Panasonic Industrial Devices SUNX	
Series	NPN output	PM-□25	PM-□24
	PNP output	PM-□25-P	PM-□24P
Sensing Range		6mm	5mm
Min. sensing object		0.8 × 1.2mm opaque object	0.8 × 1.8mm opaque object
Hysteresis		0.05mm or less	0.05mm or less
Repeatability		0.01mm or less	0.03mm or less
Supply Voltage		5 to 24V DC±10% Ripple P-P10% or less	5 to 24V DC±10% Ripple P-P10% or less
Current Consumption		15mA or less	15mA or less
Output		Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 2V or less (sink(source) current at 50mA) 1V or less (sink(source) current at 16mA)	Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 0.7V or less (sink(source) current at 50mA) 0.4V or less (sink(source) current at 16mA)
Output Operation		2 outputs : Light-ON/ Dark-ON	2 outputs : Light-ON/ Dark-ON
Protection Circuits		Power supply reverse polarity protection Output reverse polarity protection Output short-circuit protection	-
Operation indicator		Large orange LED(lights-up under light received condition)	Vermilion LED(lights-up under light received condition)
Response time		light received condition : 20 μs or less light interrupted condition : 80 μs or less (Max. response frequency : 3kHz)	light received condition : 20 μs or less light interrupted condition : 100 μs or less (Response frequency : 1kHz or more)
Environment	Protection	IP64	-
	Ambient temperature	-25 to +55°C(with no dew condensation nor icing)	-25 to +55°C(with no dew condensation nor icing)
	Ambient Humidity	5 to 85%RH(with no dew condensation nor icing)	35 to 85%RH(with no dew condensation nor icing)
	Vibration Withstand	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)
	Shock Resistance	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)

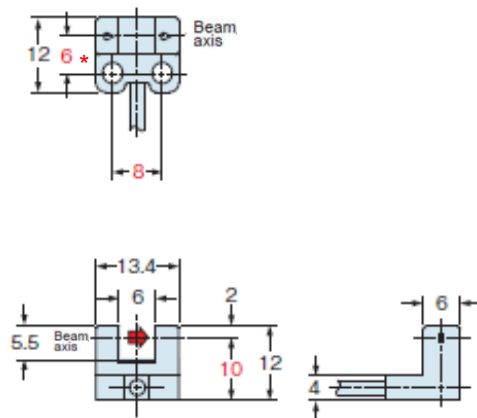
Mountable with both M2 screw and M3 screw

## PM-K25



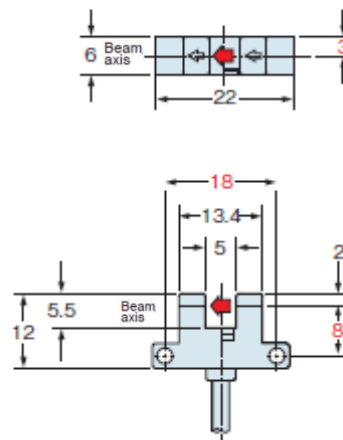
\*18mm pitch also attachable

## PM-L25

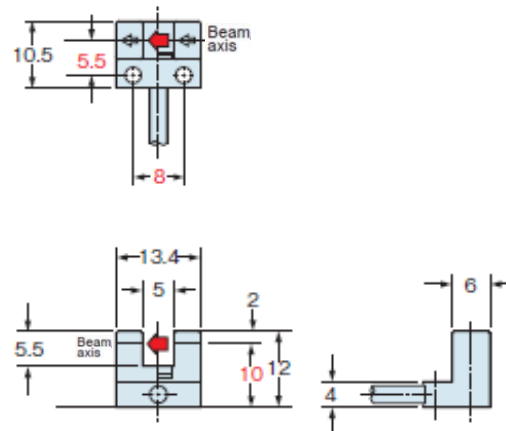


\*Attachment is possible from 5.5mm of the mounting hole.

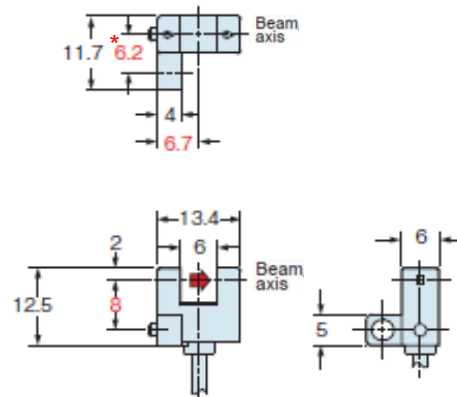
## PM-K24



## PM-L24

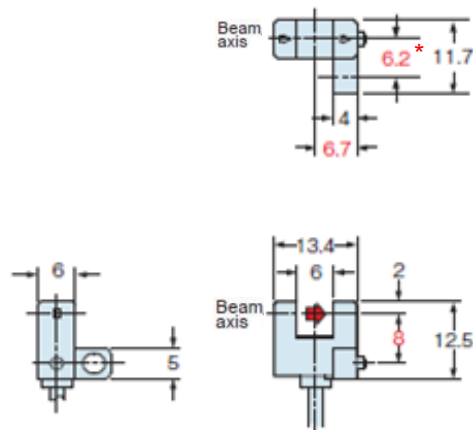


## PM-F25



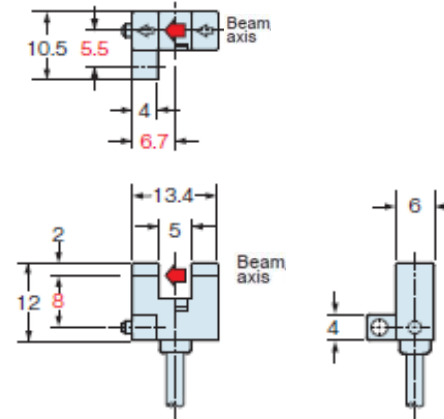
\*Attachment is possible from 5.5mm of the mounting hole.

## PM-R25

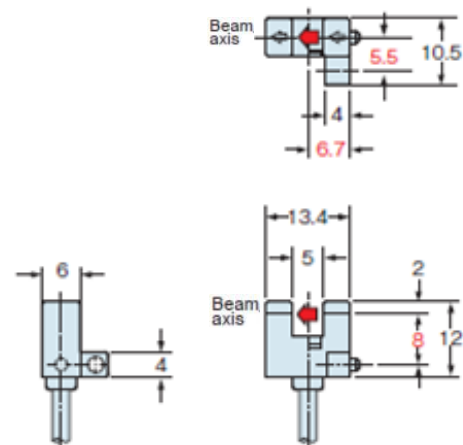


\*Attachment is possible from 5.5mm of the mounting hole.

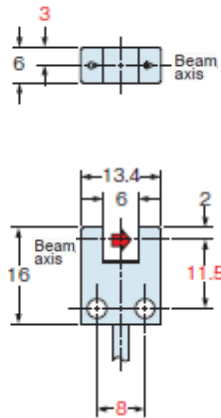
## PM-F24



## PM-R24

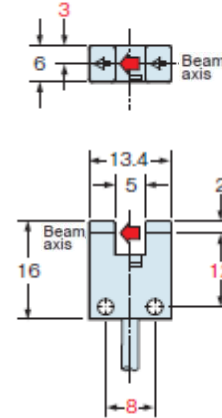


## PM-U25



\* Attachment is possible from 12mm of the mounting hole.

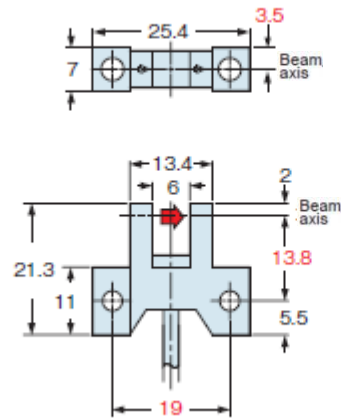
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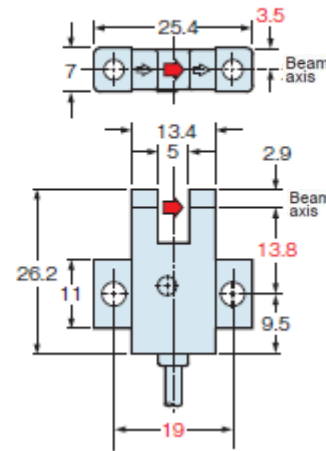
# Replacement of PM-44 Series

Manufacture		Panasonic Industrial Devices SUNX	
Series	NPN output	PM-□45	PM-□44
	PNP output	PM-□45-P	PM-□44P
Sensing Range		6mm	5mm
Min. sensing object		0.8 × 1.2mm opaque object	0.8 × 1.8mm opaque object
Hysteresis		0.05mm or less	0.05mm or less
Repeatability		0.01mm or less	0.03mm or less
Supply Voltage		5 to 24V DC±10% Ripple P-P10% or less	5 to 24V DC±10% Ripple P-P10% or less
Current Consumption		15mA or less	15mA or less
Output		Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 2V or less (sink(source) current at 50mA) 1V or less (sink(source) current at 16mA)	Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 0.7V or less (sink(source) current at 50mA) 0.4V or less (sink(source) current at 16mA)
Output Operation		2 outputs : Light-ON/ Dark-ON	2 outputs : Light-ON/ Dark-ON
Protection Circuits		Power supply reverse polarity protection Output reverse polarity protection Output short-circuit protection	-
Operation indicator		Large orange LED(lights-up under light received condition)	Vermilion LED(lights-up under light received condition)
Response time		light received condition : 20 μs or less light interrupted condition : 80 μs or less (Max. response frequency : 3kHz)	light received condition : 20 μs or less light interrupted condition : 100 μs or less (Response frequency : 1kHz or more)
Environment	Protection	IP64	-
	Ambient temperature	-25 to +55°C(with no dew condensation nor icing)	-25 to +55°C(with no dew condensation nor icing)
	Ambient Humidity	5 to 85%RH(with no dew condensation nor icing)	35 to 85%RH(with no dew condensation nor icing)
	Vibration Withstand	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)
	Shock Resistance	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)

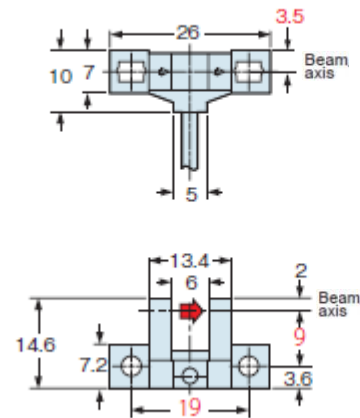
## PM-K45



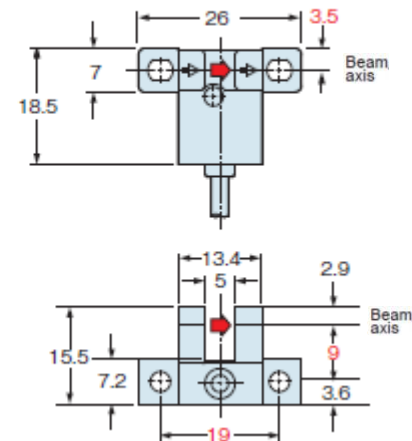
## PM-K44



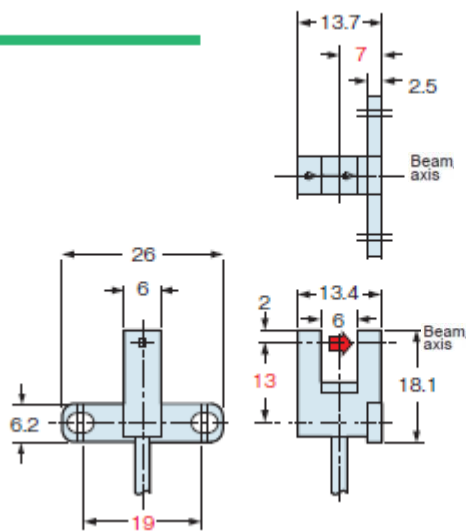
## PM-L45



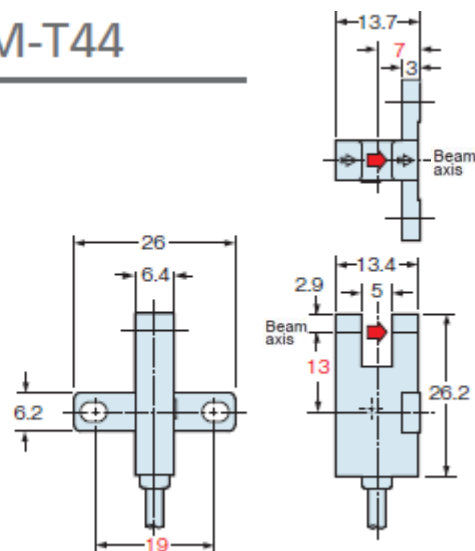
## PM-L44



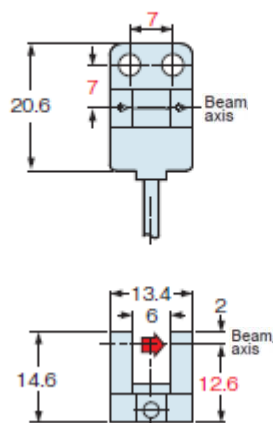
## PM-T45



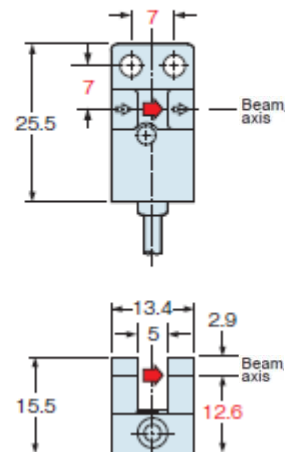
## PM-T44



## PM-Y45

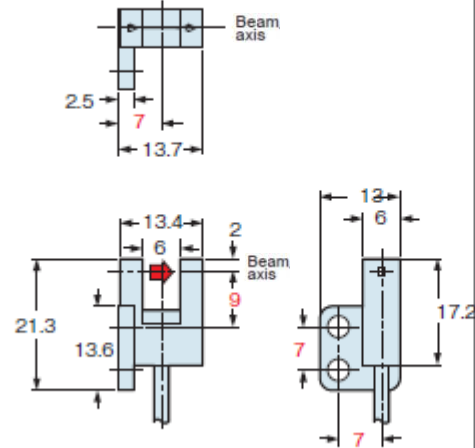


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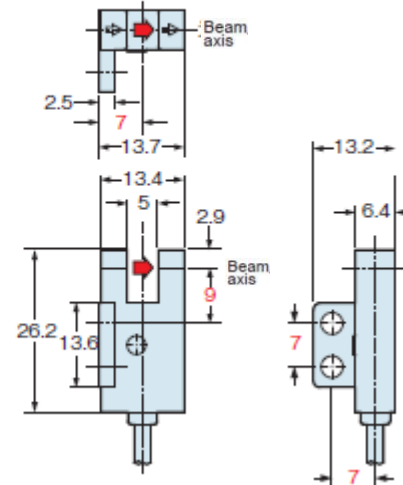




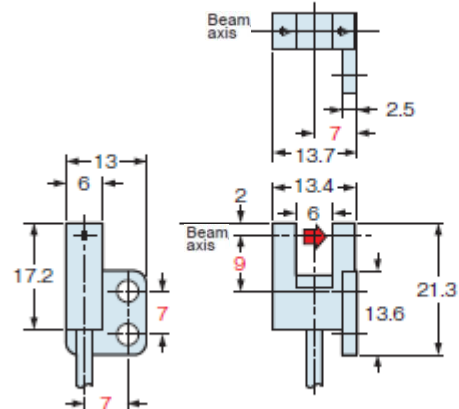
## PM-F45



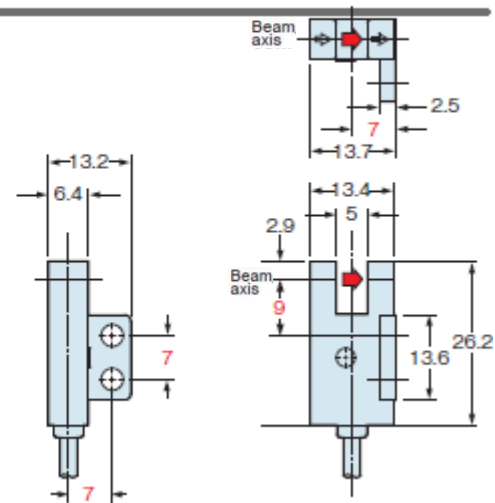
## PM-F44



## PM-R45



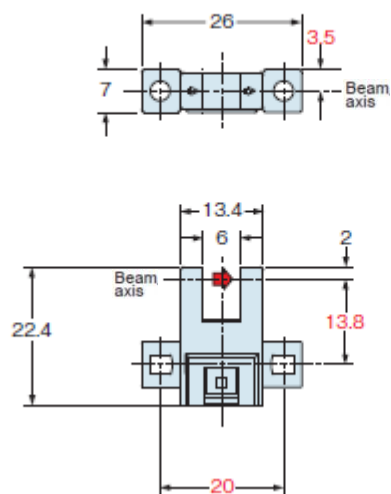
## PM-R44



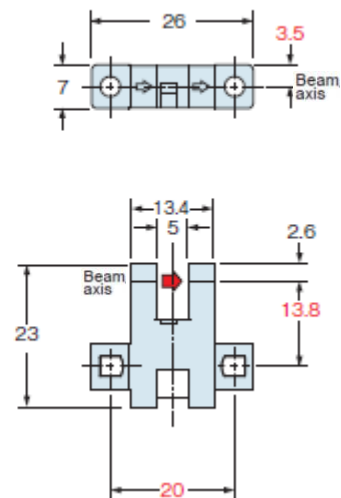
# Replacement of PM-64 Series

Manufacture		Panasonic Industrial Devices SUNX	
Series	NPN output	PM-□65	PM-□64
	PNP output	PM-□65-P	PM-□64P
Sensing Range		6mm	5mm
Min. sensing object		0.8 × 1.2mm opaque object	0.8 × 1.8mm opaque object
Hysteresis		0.05mm or less	0.05mm or less
Repeatability		0.01mm or less	0.03mm or less
Supply Voltage		5 to 24V DC ± 10% Ripple P-P10% or less	5 to 24V DC ± 10% Ripple P-P10% or less
Current Consumption		15mA or less	15mA or less
Output		Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 2V or less (sink(source) current at 50mA) 1V or less (sink(source) current at 16mA)	Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 0.7V or less (sink(source) current at 50mA) 0.4V or less (sink(source) current at 16mA)
Output Operation		2 outputs : Light-ON/ Dark-ON	2 outputs : Light-ON/ Dark-ON
Protection Circuits		Power supply reverse polarity protection Output reverse polarity protection Output short-circuit protection	-
Operation indicator		Large orange LED(lights-up under light received condition)	Orange LED(lights-up under light received condition)
Response time		light received condition : 20 μs or less light interrupted condition : 80 μs or less (Max. response frequency : 3kHz)	light received condition : 20 μs or less light interrupted condition : 100 μs or less (Response frequency : 1kHz or more)
Environment	Ambient temperature	-25 to +55°C(with no dew condensation nor icing)	-25 to +55°C(with no dew condensation nor icing)
	Ambient Humidity	5 to 85%RH(with no dew condensation nor icing)	35 to 85%RH(with no dew condensation nor icing)
	Vibration Withstand	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)
	Shock Resistance	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)

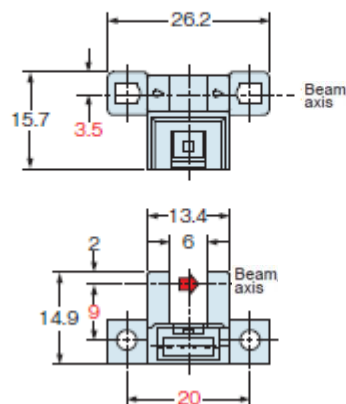
## PM-K65



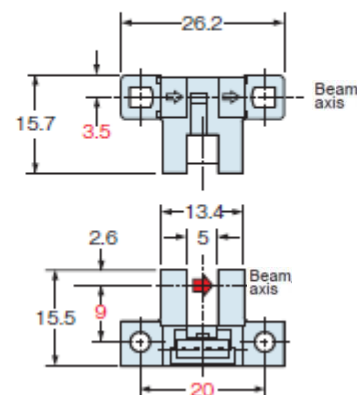
## PM-K64



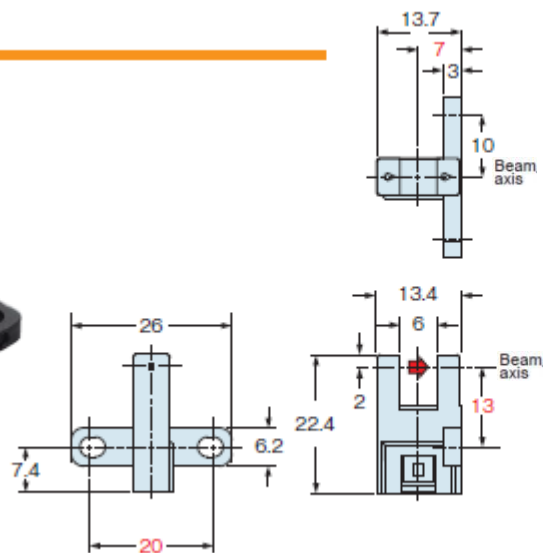
## PM-L65



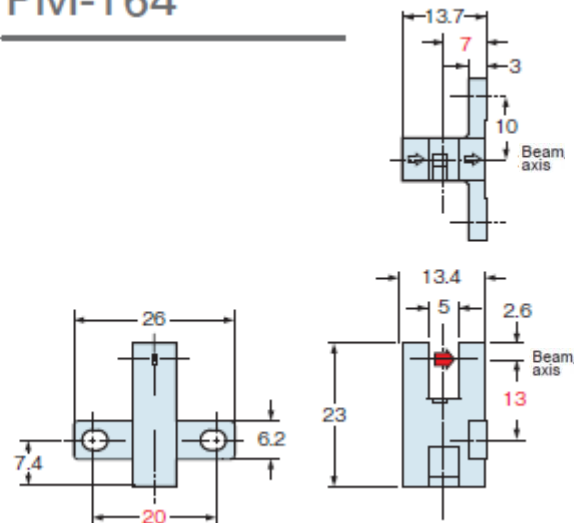
## PM-L64



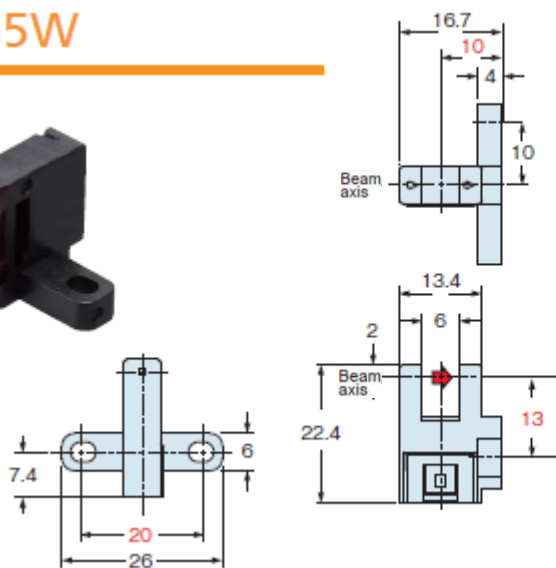
## PM-T65



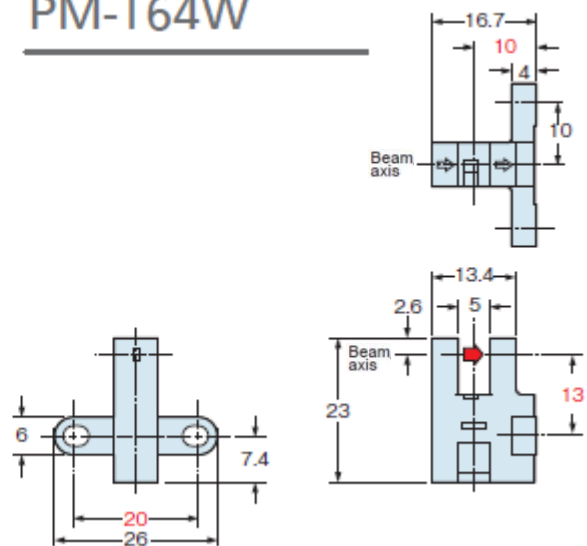
## PM-T64



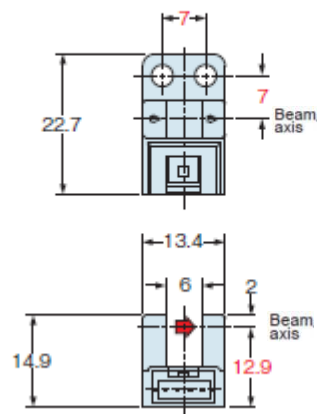
## PM-T65W



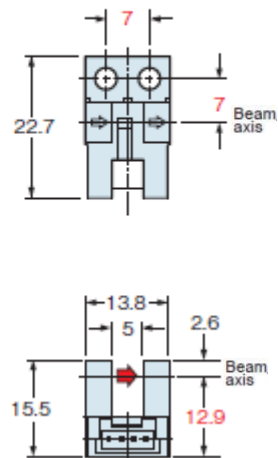
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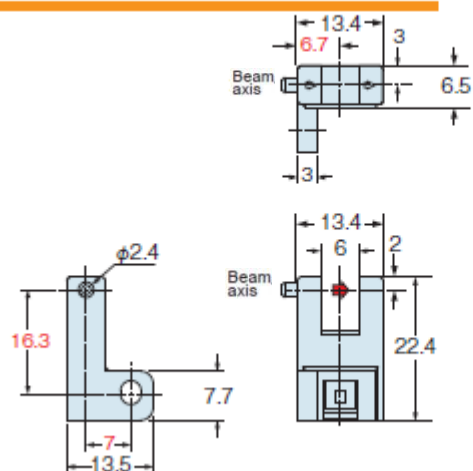
## PM-Y65



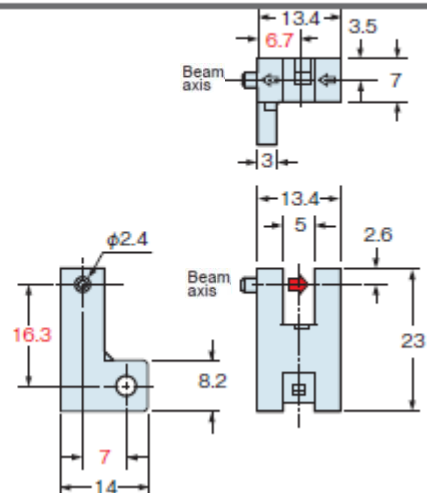
## PM-Y64



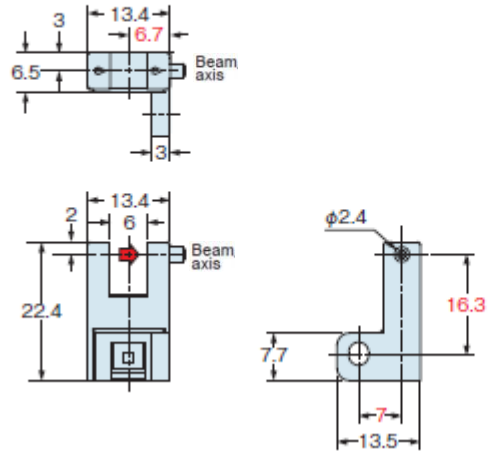
## PM-F65



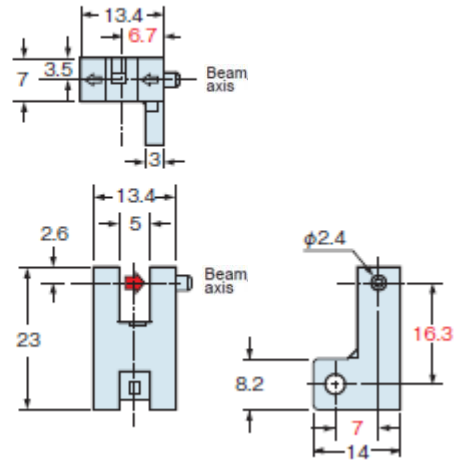
## PM-F64



# PM-R65



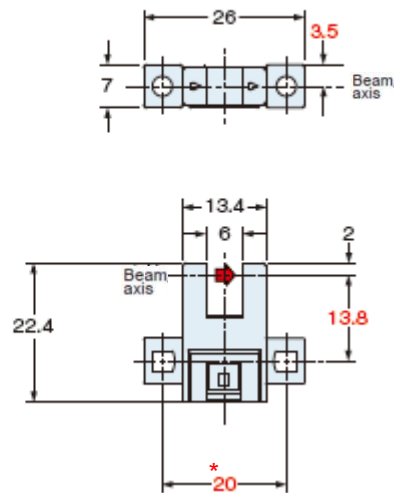
# PM-R64



# Replacement of PM-54 Series

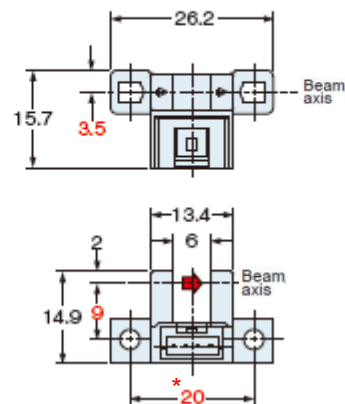
Manufacture		Panasonic Industrial Devices SUNX	
Series	NPN output	PM-□65	PM-□54
	PNP output	PM-□65-P	PM-□54P
Sensing Range		6mm	5mm
Min. sensing object		0.8 × 1.2mm opaque object	0.8 × 1.8mm opaque object
Hysteresis		0.05mm or less	0.05mm or less
Repeatability		0.01mm or less	0.03mm or less
Supply Voltage		5 to 24V DC ±10% Ripple P-P10% or less	5 to 24V DC ±10% Ripple P-P10% or less
Current Consumption		15mA or less	15mA or less
Output		Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 2V or less (sink(source) current at 50mA) 1V or less (sink(source) current at 16mA)	Max. sink(source) current : 50mA Applied voltage : 30V DC or less Residual voltage : 0.7V or less (sink(source) current at 50mA) 0.4V or less (sink(source) current at 16mA)
Output Operation		2 outputs : Light-ON/ Dark-ON	2 outputs : Light-ON/ Dark-ON
Protection Circuits		Power supply reverse polarity protection Output reverse polarity protection Output short-circuit protection	-
Operation indicator		Large orange LED(lights-up under light received condition)	Vermilion LED(lights-up under light received condition)
Response time		light received condition : 20 μs or less light interrupted condition : 80 μs or less (Max. response frequency : 3kHz)	light received condition : 20 μs or less light interrupted condition : 100 μs or less (Response frequency : 1kHz or more)
Environment	Ambient temperature	-25 to +55°C(with no dew condensation nor icing)	-25 to +55°C(with no dew condensation nor icing)
	Ambient Humidity	5 to 85%RH(with no dew condensation nor icing)	35 to 85%RH(with no dew condensation nor icing)
	Vibration Withstand	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)	10 to 2,000 Hz frequency,1.5mm double amplitudes,applied in X,Y and Z direcions for 2 hours each(power OFF)
	Shock Resistance	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)	15,000m/s <sup>2</sup> (1,500G approx.) X,Y and Z directions 3 times each(power OFF)

## PM-K65



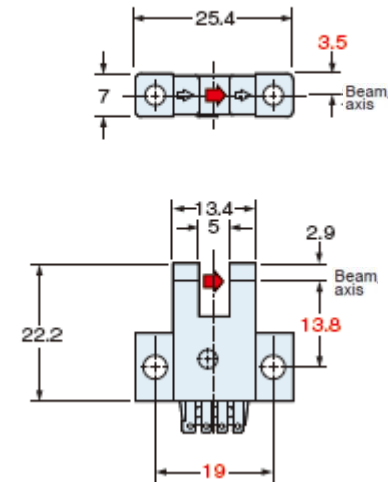
\*19mm pitch also attachable

## PM-L65

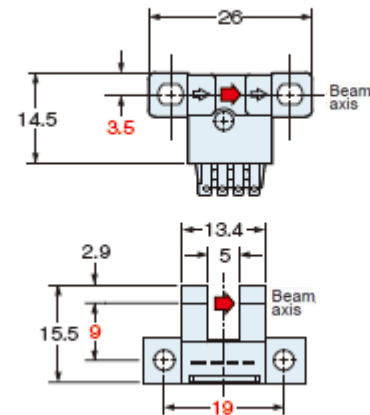


\*19mm pitch also attachable

## PM-K54

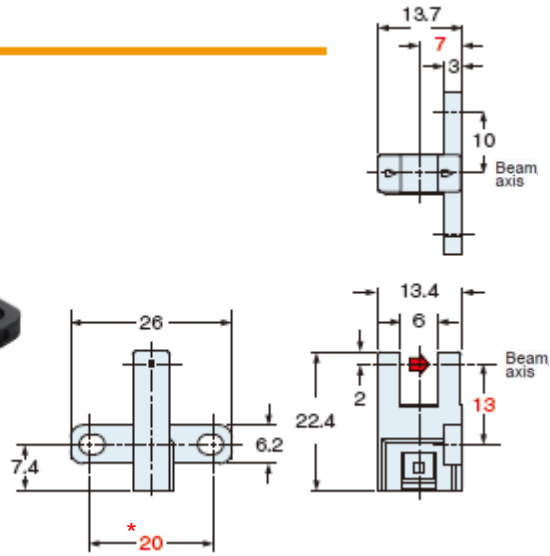


## PM-L54



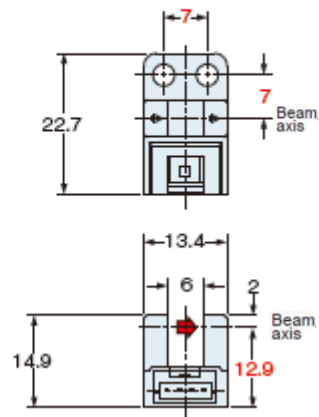


## PM-T65

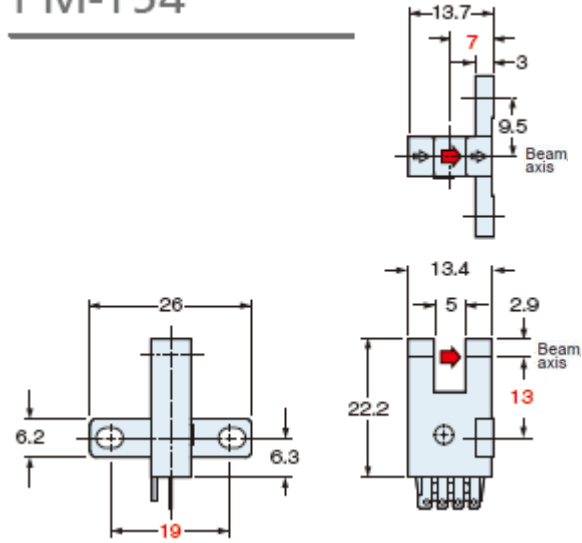


\*19mm pitch also attachable

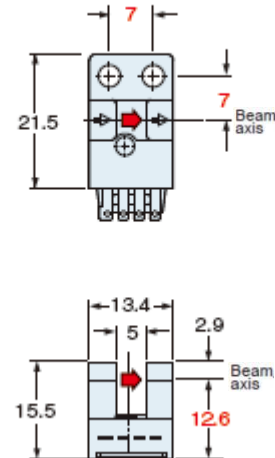
## PM-Y65



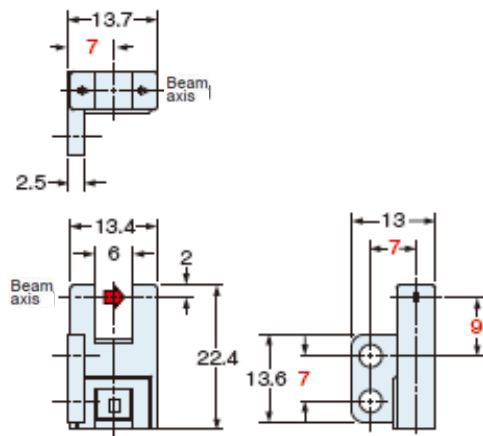
## PM-T54



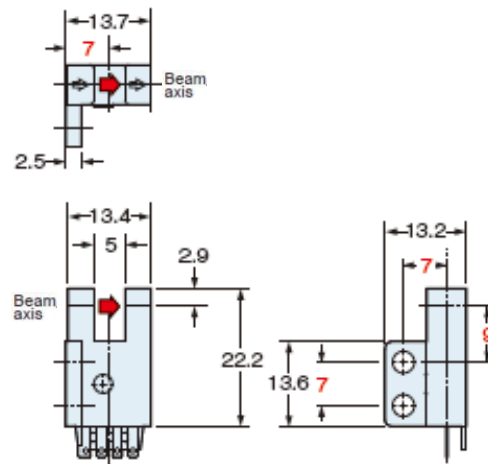
## PM-Y54



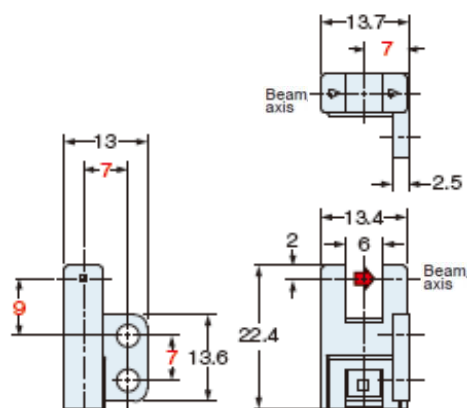
## PM-F65W



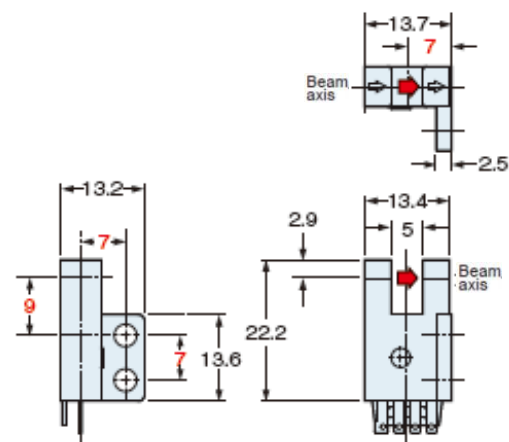
## PM-F54



## PM-R65W



## PM-R54



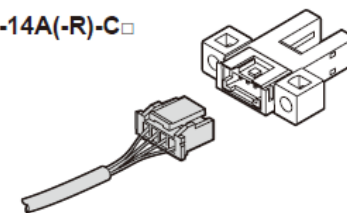
# Replacement of Connector

## Connector attached cable (PM-65)

Designation	Model No.	Description	
Connector attached cable	<b>CN-14A-C1</b>	Length: 1m <b>3.281 ft</b>	0.2 mm <sup>2</sup> 4-core cabtyre cable with connector on one end Cable outer diameter: $\phi$ 3.7 mm $\phi$ 0.146 in
	<b>CN-14A-C2</b>	Length: 2m <b>6.562 ft</b>	
	<b>CN-14A-C3</b>	Length: 3m <b>9.843 ft</b>	
	<b>CN-14A-C5</b>	Length: 5m <b>16.404 ft</b>	
Connector attached cable (Bending-resistant cable)	<b>CN-14A-R-C1</b>	Length: 1m <b>3.281 ft</b>	0.2 mm <sup>2</sup> 4-core cabtyre cable with connector on one end Cable outer diameter: $\phi$ 3.7 mm $\phi$ 0.146 in
	<b>CN-14A-R-C2</b>	Length: 2m <b>6.562 ft</b>	
	<b>CN-14A-R-C3</b>	Length: 3m <b>9.843 ft</b>	
	<b>CN-14A-R-C5</b>	Length: 5m <b>16.404 ft</b>	
Connector	<b>CN-14A</b>	Set of 10 housings and 40 contacts	

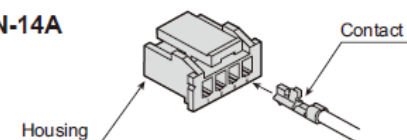
### Connector attached cable

- CN-14A(-R)-C□



### Connector

- CN-14A

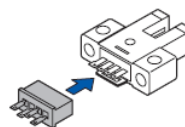


## Connector attached cable (PM-54)

Designation	Model No.	Description	
Connector	<b>CN-14</b>	Connector for soldering	
Hook-up connector	<b>CN-14H</b>	This connector can be hooked-up on 0.08 to 0.2 mm <sup>2</sup> cable simply in one grip. Wire diameter: $\phi$ 0.7 to $\phi$ 1.2 mm $\phi$ 0.028 to $\phi$ 0.047 in	
	<b>CN-14H-2</b>	Suitable for UL standard cable. This connector can be hooked-up on 0.18 to 0.22 mm <sup>2</sup> cable simply in one grip. Wire diameter: $\phi$ 1.2 to $\phi$ 1.52 mm $\phi$ 0.047 to $\phi$ 0.060 in	
Connector attached cable	<b>CN-14H-C1</b>	Length: 1m <b>3.281 ft</b> Net weight: 20 g approx.	For the connector type, with 0.2 mm <sup>2</sup> 4-core cabtyre cable Cable diameter: $\phi$ 3.7 mm $\phi$ 0.146 in
	<b>CN-14H-C3</b>	Length: 3m <b>9.843 ft</b> Net weight: 65 g approx.	
Hook-up pliers	<b>CN-HP</b>	These are exclusive pliers for hook-up connectors CN-14H and CN-14H-2.	

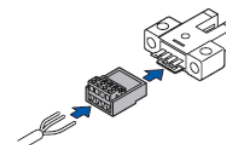
### Connector

- CN-14



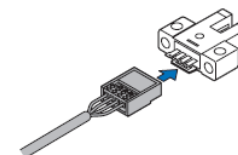
### Hook-up connector

- CN-14H
- CN-14H-2



### Connector attached cable

- CN-14H-C1
- CN-14H-C3



### Hook-up pliers

- CN-HP

