r with ±0.1% F.S. linearity packed
m size.

sign ideal for built-in use with OEM machines.
tput (4-20mA or 0-10V) + 2 control outputs
design capable of direct operation without controller

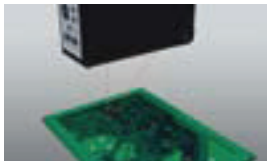
Actual size

CD33-30NV (PV)
CD33-30NA (PA)

30mm distance type

Warping / Sagging of PC board

Measurement range : 30 ±4mm
Resolution : 4μm (Fast mode)
Linearity : ±0.1% F.S.



CD33-50NV (PV)
CD33-50NA (PA)

50mm distance type

Height of components on the board

Measurement range : 50 ±10mm
Resolution : 8μm (Fast mode)
Linearity : ±0.1% F.S.

CD33-85NV (PV)
CD33-85NA (PA)

85mm distance type

Joint of rubber sheet

Measurement range : 85 ±20mm
Resolution : 15μm (Fast mode)
Linearity : ±0.1% F.S.

CD33-120NV (PV)
CD33-120NA (PA)

120mm distance type

Loosen rubber sheet

Measurement range : 120 ±60mm
Resolution : 45μm (Fast mode)
Linearity : ±0.1% F.S.

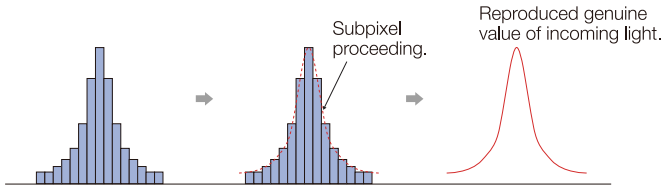
ies is a function rich CMOS laser sensor designed in an ultra-compact housing

tes space-saving as well

quired and thanks to the ideal for installations on

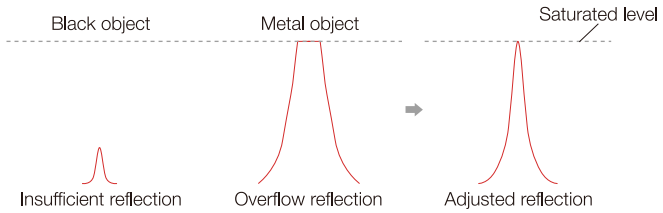
processing

les one pixel into small curate measurement by e of incoming light.



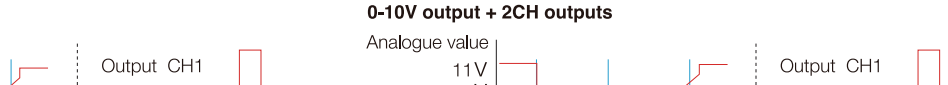
lectronic shutter

hutter controls to keeps a reflection.
ble peak level detection e conditions exist.



dels between voltage and current output.

sors to be very complicated requiring long set-up times and many buttons to operate.
r set-up by separating voltage and current output models into two types.

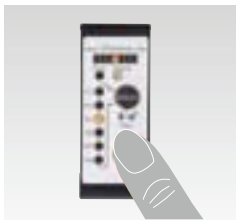


Ideal for robot mounting

Ideal for mounting on robot cylinder thanks to compact dimensions and the light 65g weight. IP67 water tightness is also secured.

Easy operation

Just two buttons (SET and SELECT) are enough to set and operate. LED indicator shows which function you are setting.



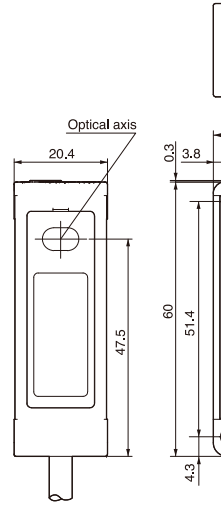
2CH outputs enables individual setting of measurement range.

Highly accurate comparator output capable of identifying 12μm (with CD33-30 types). Hysteresis is just 0.15% F.S.

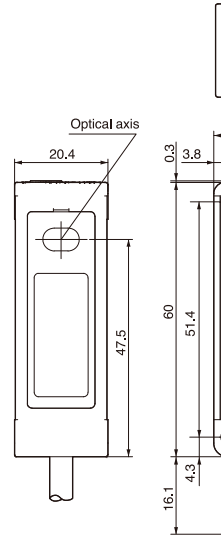
MF (Multi Function) input for further convenience.

The programmable remote MF input can be set to one of the following: Laser o , External teach, Hold, or One-shot trigger.

Cable type



M12 Conne

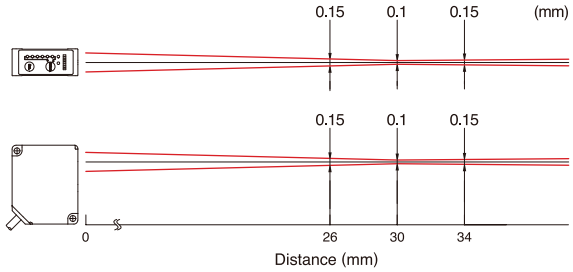


l output	CD33-30N / P	CD33-50N / P	CD33-85N / P	CD33-120N / P
output + Analog 4-20mA	CD33-30NA / PA	CD33-50NA / PA	CD33-85NA / PA	CD33-120NA / PA
l output + Analog 0-10V	CD33-30NV / PV	CD33-50NV / PV	CD33-85NV / PV	CD33-120NV / PV
l output + RS422	CD33-30N-422 / P-422	CD33-50N-422 / P-422	CD33-85N-422 / P-422	CD33-120N-422 / P-422
l output	CD33-30CN / CP	CD33-50CN / CP	CD33-85CN / CP	CD33-120CN / CP
output + Analog 4-20mA	CD33-30CNA / CPA	CD33-50CNA / CPA	CD33-85CNA / CPA	CD33-120CNA / CPA
l output + Analog 0-10V	CD33-30CNV / CPV	CD33-50CNV / CPV	CD33-85CNV / CPV	CD33-120CNV / CPV
l output + RS422	CD33-30CN-422 / CP-422	CD33-50CN-422 / CP-422	CD33-85CN-422 / CP-422	CD33-120CN-422 / CP-422
	N = NPN output, P = PNP output			
	30±4mm	50±10mm	85±20mm	120±60mm
	8mm	20mm	40mm	120mm
	Red laser diode (wave length 650nm)			
	1mW max.			
	Class 2			
	CLASS II			
	0.15×0.15mm	0.6×1.2mm	0.9×1.5mm	1.2×1.8mm
	0.1×0.1mm	0.5×1.0mm	0.75×1.25mm	1.0×1.5mm
	0.15×0.15mm	0.4×0.9mm	0.6×1.0mm	0.5×0.8mm
	±0.1% F.S.			
	4μm	8μm	15μm	45μm
	2μm	5μm	10μm	30μm
	12 - 24V DC (–5 to +10%)			
	±0.08%F.S. / ˚C			
	1ms+ selecting sensitivity (averaging: 1)			
d	8.5ms+ selecting sensitivity (averaging: 16)			
olution	32.5ms+ selecting sensitivity (averaging: 64)			
g sensitivity	4ms max.			
e indicator	bar graph LED			
ndicator	ON status : Orange			
	IP67			
	−10～+45˚C / 35～85%RH (No condensation or freezing)			
	−20～+60˚C / 35～95%RH (No condensation or freezing)			
	Sun light: 10,000lx max. Incandescent lamp: 3,000lx max.			
	10 to 55 Hz, Double amplitude 1.5 mm, 2 h for XYZ axes			
	50G (500m/s²)			
	PBT (Case) PMMA (Front window)			
pe	approx.65g (without cable)			
tor type	approx.70g			

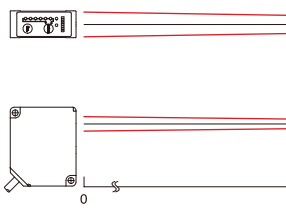
Control output	+ Analog 4-20mA	+ Analog 0-10V	2 Control output + RS422
C 12-24V (-5%, +10%)		DC 18-24V (-5%, +10%)	DC 12-24V (-5%, +10%)
ax. 75mA (DC24V)	max. 80mA (DC24V) including analog output		max. 75mA (DC24V)
PN / PNP open collector 100mA max. / 30VDC (residual voltage max. 1.8V)			—
PN / PNP open collector 100mA max. / 30VDC (residual voltage max. 1.8V)			
-	4-20mA	0-10V	—
-			RS422
a : 5mm 5core 2m AWG24 (PVC)	Dia : 5mm 6core 2m AWG24 (PVC)		Dia : 5mm 8core 2m AWG24 (PVC)
M12 8pin			

There may be leak light other than the specified spot size. The sensor may be affected when there is a highly reflective object around the targets.
hite ceramic.
ceramic.
ting sensitivity time.

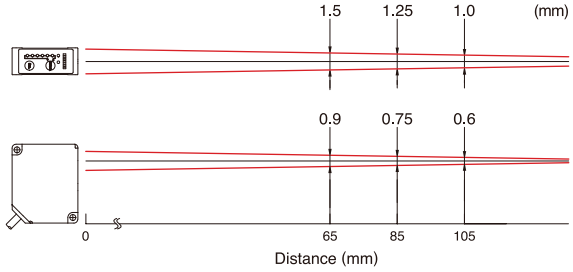
Model No. : CD33-30N□



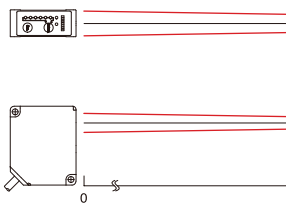
Model No. : CD33-50N□



Model No. : CD33-85N□

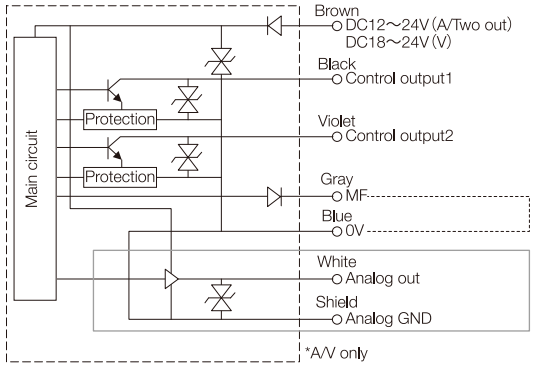


Model No. : CD33-120N□

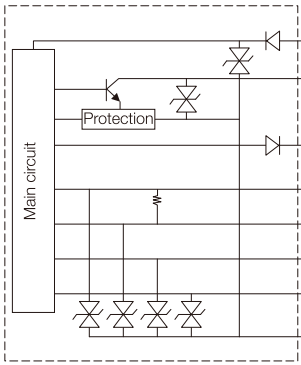


INPUT / OUTPUT DIAGRAM

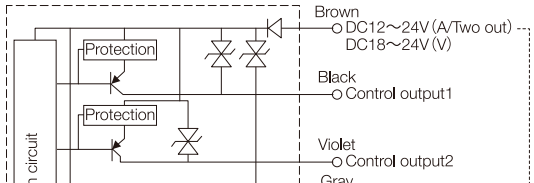
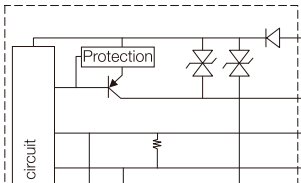
NPN type (Analogue/Voltage dual)



NPN type (RS422)



PNP type (Analogue/Voltage dual)



PNP type (RS422)