BA2M-DDT

Small size, long distance diffuse reflective type

▣Features

- ●Capability of detecting long distance(2m) by special optical design.
- ●Stable received light indicator built in.
- ●Sensitivity adjustment function built in.
- ●2 color LED display.

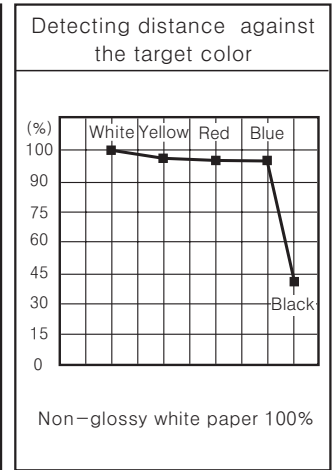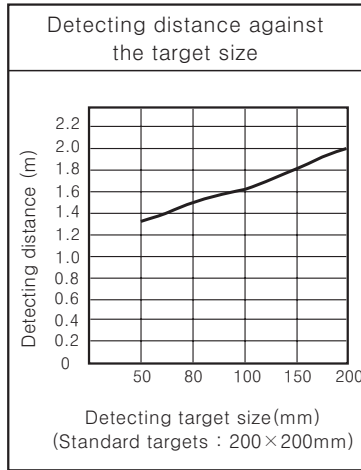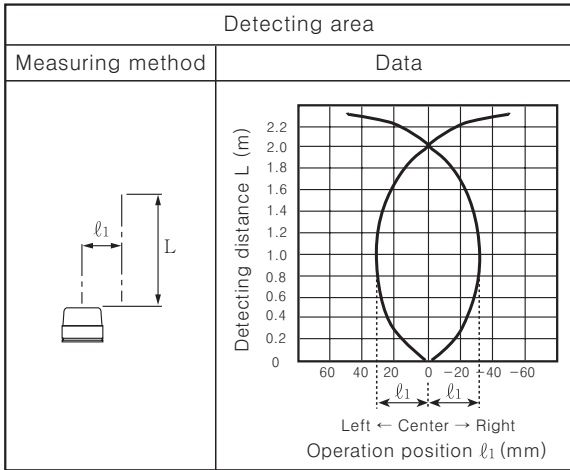| ⚠	Please read "Caution for your safety" in operation manual before using.

CE

▣Specifications

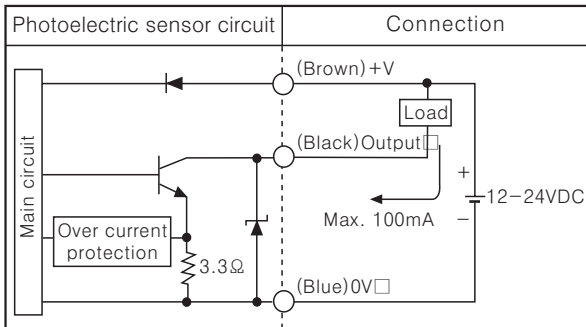| Model	BA2M-DDT
Type	Diffuse reflective
Detecting distance(※)	2m
Detecting target	Transparent, Translucent, Opaque material
Hysteresis	Max. 20% at rated setting distance
Response time	Approx. 1ms
Power supply	12−24VDC ±10%(Ripple P−P : Max. 10%)
Current consumption	Max. 15mA(Max. 30mA when the output is ON)
Light source	Infrared LED(850nm modulated)□
Sensitivity adjustment	Adjustable VR
Operation mode	Light ON(Dark ON mode is optional)
Control output	NPN open collector output ☞ Load voltage : Max. 30VDC, Load current : Max. 100mA, Residual voltage : Max. 1V
Protection circuit	Reverse polarity protection, Output short−circuit protection
Receiver	Photo diode(Built−in IC)□
Indication	2 color LED [Operation : Red, Stability : Yellow(Red+Green)]
Insulation resistance	Min. 20MΩ (at 500VDC)
Noise strength	±240V the square wave noise(pulse width:1μs) by the noise simulator
Dielectric strength	1000VAC 50/60Hz for 1minute
Vibration	1.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours
Shock	100m/s² (10G) in X, Y, Z directions for 3 times
Ambient illumination	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx
Ambient temperature	−20 ~ +55℃(at non−freezing status), Storage : −25 ~ +70℃
Ambient humidity	35 ~ 85%RH
Protection	IP50(IEC specification)
Material	Case : PBT, Lens : PMMA
Cable	3P, ϕ3mm, Length : 2m
Accessory	Sensitivity adjustment tool
Approval	CE
Weight	Approx. 50g

(※)It is for Non−glossy white paper(200×200mm).
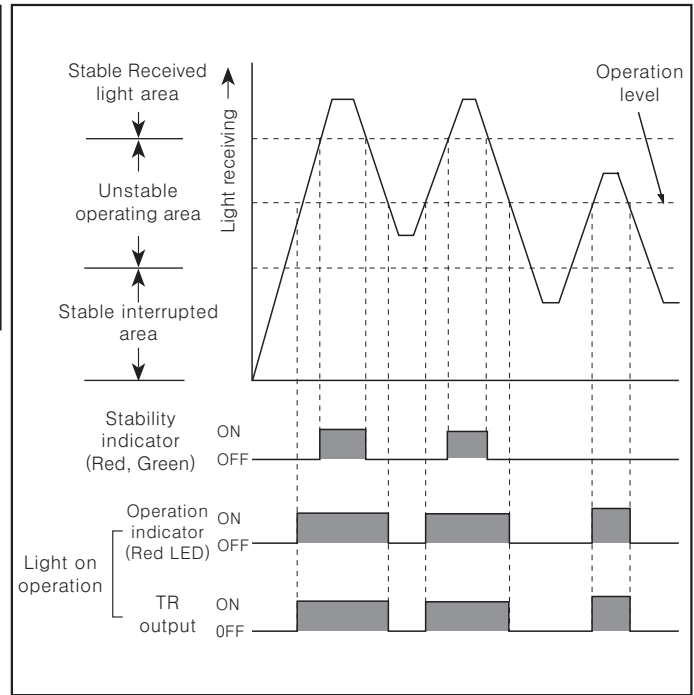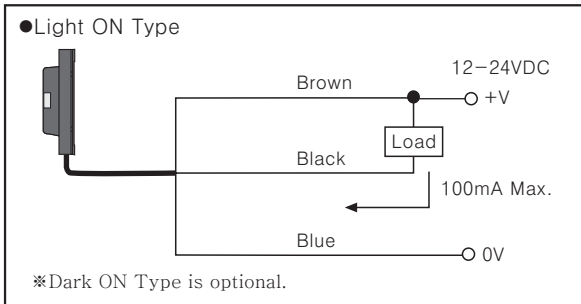
DC Long Distance Diffuse Type

▣ Characteristic

Detecting area	
Measuring method	Data

Detecting distance L (m): 2.2, 2.0, 1.8, 1.6, 1.4, 1.2, 1.0, 0.8, 0.6, 0.4, 0.2, 0

60 40 20 0 −20 −40 −60

Left ← Center → Right
Operation position ℓ_1 (mm)

Detecting distance against the target size

Detecting distance (m): 2.2, 2.0, 1.8, 1.6, 1.4, 1.2, 1.0, 0.8, 0.6, 0.4, 0.2, 0

50 80 100 150 200

Detecting target size (mm)
(Standard targets : 200×200mm)

Detecting distance against the target color

(%): 100, 90, 75, 60, 45, 30, 15, 0

White Yellow Red Blue Black

Non−glossy white paper 100%

▣ Control output diagram

Photoelectric sensor circuit	Connection

(Brown) +V

Load

(Black) Output

Max. 100mA

12−24VDC

(Blue) 0V

Main circuit

Over current protection

3.3Ω

▣ Connections

● Light ON Type

Brown — +V
Black
Load — 100mA Max.
Blue — 0V

12−24VDC

※Dark ON Type is optional.

▣ Operation mode

Stable Received light area

Unstable operating area

Stable interrupted area

Light receiving

Operation level

Stability indicator (Red, Green): ON / OFF

Operation indicator (Red LED): ON / OFF

Light on operation

TR output: ON / OFF

▣ Dimensions

5

Adjusting VR

MIN MAX

34.4

φ3, Cable : 2m

48.5

16

16

41.5

3.5

2color LED
(Operation • stability indicator)

M3 BOLT

10 ±0.2

18.5

15.5

8

7.5

3

19

Unit:mm