DOMO
SIGNALLING AND CONTROL

CR series

Semaphore LED indicators

The indications you need. The way you want.

New CR Semaphore LED indicators.
Top quality, Made in Italy, DOMO.

SERIES CATALOGUE WITH FEATURES AND INSTALLATION GUIDES



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CR

The indications you need. The way you want.
New **CR** Semaphore LED indicators.
Top quality, Made in Italy, DOMO.





Square
Head
Round
Display

Round
Head
Round
Display



PMMA
glass

Semaphore LED indicators



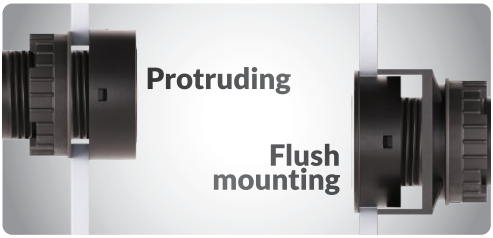
CR series

Built-in rectifier bridge

Backfeed protection

Low-voltage glow protection

LT
Built-in lamp test facility
Optional feature



Protruding

Flush mounting

IP54

4 layers PCB

MultiVoltage
Optional feature

Pure Green
LED technology

Intense and bright colored light



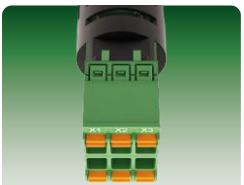
Faston terminals
2,8mm x 0,8mm



Screw connection with tension sleeve



Screw connection with tension sleeve
on pluggable terminal blocks



Push-in spring connection
on pluggable terminal blocks



MADE IN ITALY

CE RoHS compliant

Some of the features listed in this page may not apply to all products in this series.

Technical features





CR SMALL

BASE CODE CR16/24

Head

- AT — Protruding, round head, round display
- AQ — Protruding, square head, round display
- BT — Flush mounting, round head, round display
- BQ — Flush mounting, square head, round display

Semaphore colors

Power supply voltage

24V AC/DC | 48V AC/DC | 130V AC/DC | 230V AC/DC

Connection type

HD

Optional features

- \-
- TR — Tropicalization
- FL — Flying leads

Specific features

- **Built-in rectifier bridge** — To operate both in alternating (Vac) and direct current (Vdc).
- **Backfeed protection*** — Built-in protection diodes avoid reverse voltage and current feeding, protecting the circuit.
- **Low-voltage glow protection*** — Built-in Zener diodes provide protection from false indications at leakage voltages.

CR REGULAR

BASE CODE CR22/30

Head

- AT — Protruding, round head, round display
- AQ — Protruding, square head, round display
- BT — Flush mounting, round head, round display
- BQ — Flush mounting, square head, round display

Semaphore colors

Power supply voltage

24V AC/DC | 48V AC/DC | 130V AC/DC | 230V AC/DC | MultiVoltage 24÷240Vac | 24÷300Vdc

Connection type

HD TV ST SP

Optional features

- 2LT — Built-in double lamp test facility*
- TR — Tropicalization
- FL — Flying leads

Specific features

- **Built-in rectifier bridge** — To operate both in alternating (Vac) and direct current (Vdc).
- **Backfeed protection*** — Built-in protection diodes avoid reverse voltage and current feeding, protecting the circuit.
- **Low-voltage glow protection*** — Built-in Zener diodes provide protection from false indications at leakage voltages.

CR LARGE

BASE CODE CR22/48

Head

- AT — Protruding, round head, round display
- AQ — Protruding, square head, round display
- \-
- \-

Semaphore colors

Power supply voltage

24V AC/DC | 48V AC/DC | 130V AC/DC | 230V AC/DC

Connection type

HD TV ST SP

Optional features

- 2LT — Built-in double lamp test facility*
- TR — Tropicalization
- FL — Flying leads

Specific features

- **Built-in rectifier bridge** — To operate both in alternating (Vac) and direct current (Vdc).
- **Backfeed protection*** — Built-in protection diodes avoid reverse voltage and current feeding, protecting the circuit.
- \-

In the interest of product improvement DOMO reserves the right to change any data given in this shortform catalogue at any time without previous notice.
(*) Diodes voltage values may change according to selected features. Values are shown in the diagrams in the **Diodes voltage values** section.
(*) Green color NOT based on Pure Green Technology

CR SMALL

BASE CODE CR16/24

Degree of protection

IP54 EN 60529

Service life

T_A 25°C >100.000h >100.000h at 25°C

Ambient air temperature

-40°C +70°C For storage -40... +70°C

-20°C +70°C For operation -20... +70°C

Materials

POLYCARBONATE Polycarbonate (PC) V0/UL 94

PMMA PMMA

PCB

4 LAYERS PCB 4 layers PCB

Bulb base

Integral LED

Device presentation

Monolithic product

Conformity to standards

EN/IEC 60947.5.1

Electromagnetic compatibility

Disturbing field emission class B
conforming to IEC 61000-4-2/-3/-4/-5/-6/-11

Weight

	HD			
AT AQ	18g	-	-	-
BT BQ	21g	-	-	-

CR REGULAR

BASE CODE CR22/30

Degree of protection

IP54 EN 60529

Service life

T_A 25°C >100.000h >100.000h at 25°C

Ambient air temperature

-40°C +70°C For storage -40... +70°C

-20°C +70°C For operation -20... +70°C

Materials

POLYCARBONATE Polycarbonate (PC) V0/UL 94

PMMA PMMA

PCB

4 LAYERS PCB 4 layers PCB

Bulb base

Integral LED

Device presentation

Monolithic product

Conformity to standards

EN/IEC 60947.5.1

Electromagnetic compatibility

Disturbing field emission class B
conforming to IEC 61000-4-2/-3/-4/-5/-6/-11

Weight

	HD	TV	ST	SP
AT AQ	18g	21g	25g	25g
BT BQ	21g	25g	28g	28g

CR LARGE

BASE CODE CR22/48

Degree of protection

IP54 EN 60529

Service life

T_A 25°C >100.000h >100.000h at 25°C

Ambient air temperature

-40°C +70°C For storage -40... +70°C

-20°C +70°C For operation -20... +70°C

Materials

POLYCARBONATE Polycarbonate (PC) V0/UL 94

PMMA PMMA

PCB

4 LAYERS PCB 4 layers PCB

Bulb base

Integral LED

Device presentation

Monolithic product

Conformity to standards

EN/IEC 60947.5.1

Electromagnetic compatibility

Disturbing field emission class B
conforming to IEC 61000-4-2/-3/-4/-5/-6/-11

Weight

	HD	TV	ST	SP
AT AQ	33g	35g	42g	42g
	-	-	-	-



Accessories and spares

Find the right accessories and spare parts for these products on our website!

DOMO.it

Common notions to all products listed above

Power supply limits

V MAX / V MIN

24V	13V... 30V
48V	15V... 60V
130V	70V... 150V
230V	160V... 250V
MultiVoltage	24÷240Vac 24÷300Vdc

- REACh free of SVHC
- Mercury free
- Toxic heavy metal free

CE RoHS compliant MADE IN ITALY

Compliance

Directive 2006/95/EC Low Voltage
Directive 2004/108/EC Electromagnetic compatibility
Directive 2011/65/EC RhOS
Directive 2006/42/EC Machinery
Directive 2015/863/UE

Warranty

Warranty period is eighteen (18) months and starts from the goods delivery date.

CUSTOMS CODE 8531 807000

Current consumption values are shown in a dedicated section a few pages further on.

Head

- **AT** Protruding, round head, round display
- **AQ** Protruding, square head, round display
- **BT** Flush mounting, round head, round display
- **BQ** Flush mounting, square head, round display

Optional features

- **TR** Tropicalization
- **FL*** Flying leads

CR 16/24 AT RG 24 HD

BASE CODE

Semaphore colors

BICOLOR

- **RG** Red/Green
- **GY** Yellow/Green
- **WW** White/White

Power supply voltage

- **24** 24V AC/DC
- **48** 48V AC/DC
- **130** 130V AC/DC
- **230** 230V AC/DC

Upon request, it is possible to configure your product with power supply voltages not listed in the catalogue.

Connection types

- **HD** Faston terminals

PRODUCT NUMBER (P/N) EXAMPLES

CR16/24 AT RG 24 HD
CR16/24 BQ WW 130 HD
CR16/24 AQ YG 230 HD TR

IMPORTANT NOTES ABOUT THIS DEVICE

* If FL feature is requested, wiring will be provided according to DOMO standards. More details a few pages further on.



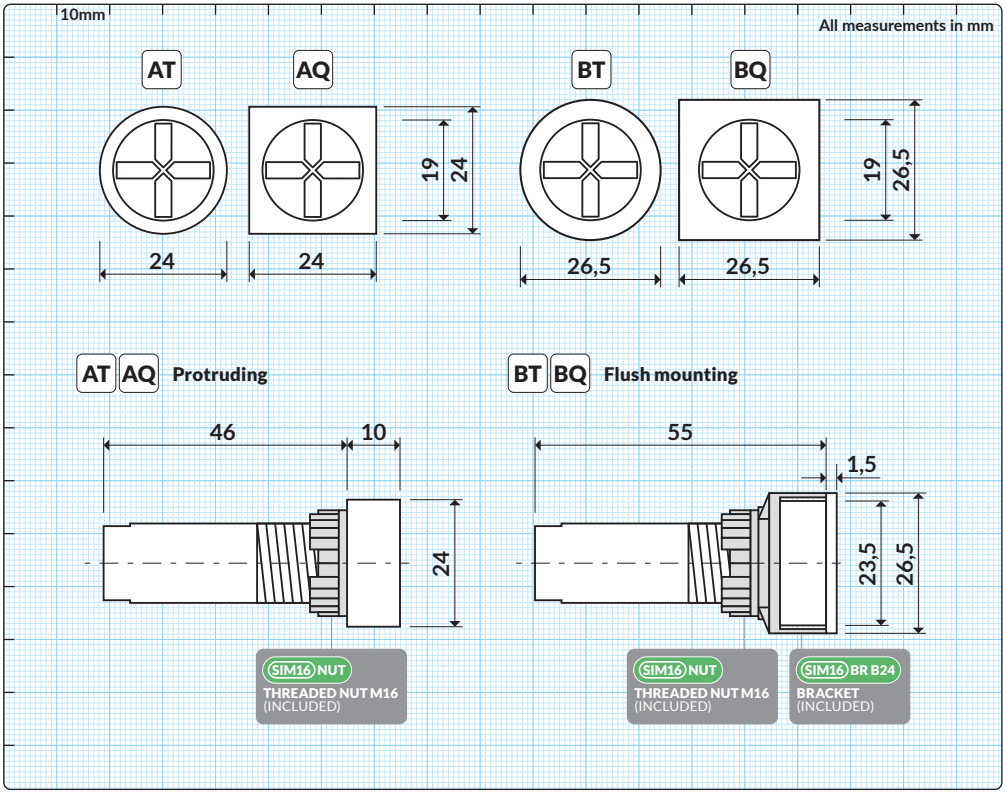
Get the right P/N and avoid mistakes when ordering!

Use our Product Number configurator and request a quote on our website!

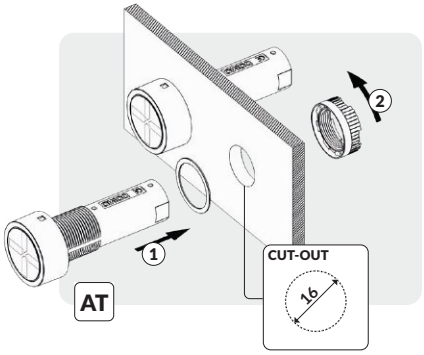
DOMO.it

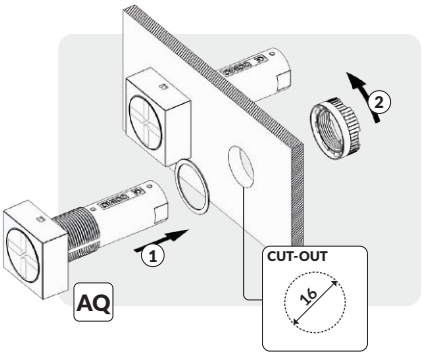
10mm

All measurements in mm

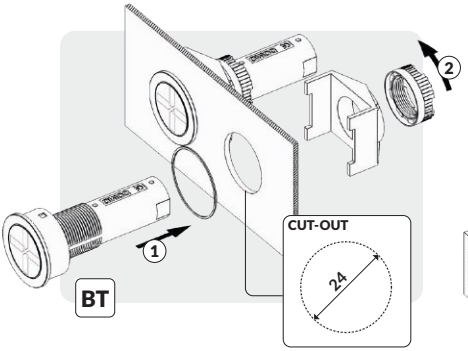


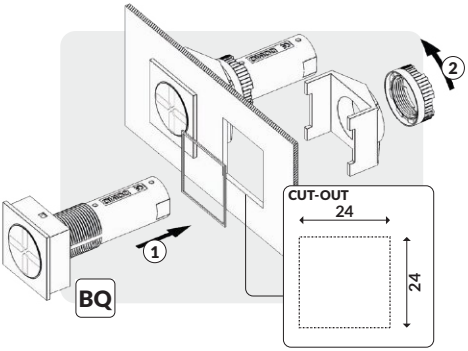
Panel mounting (metal sheet) of protruding devices AT AQ
MAX BOARD THICKNESS: **10mm**
CLAMPING: **THREADED NUT M16** (INCLUDED)





Panel mounting (metal sheet) of flush mounting devices BT BQ
MAX BOARD THICKNESS: **4mm**
CLAMPING: **THREADED NUT M16** (INCLUDED) AND **BRAKET** (INCLUDED)



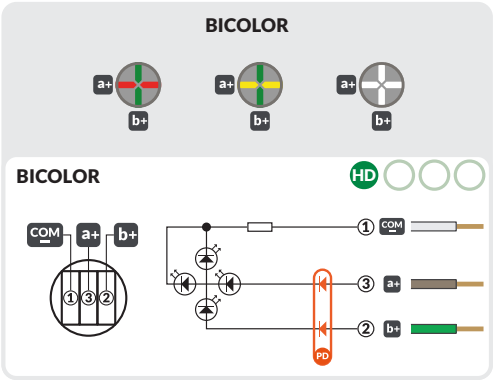


Terminals CR SMALL

HD
Faston terminals
2,8mm x 0,8mm
(DIN 46245)

Nominal current	12A
Nominal voltage	320V
Conductor cross section flexible	0,2mm² ... 2,5mm²
Conductor cross section AWG / kcmil	24 ... 12 AWG
Conductor cross section, flexible, with ferrule, with plastic sleeve	0,2mm² ... 2,5mm²
2 conductors with same cross section, flexible	0,2mm² ... 1,5mm²
Tightening torque	-
Stripping length	-
Ferrule length	-





Wiring color code according to DIN 47100 color coding.
PD = Built-in protection diode for backfeed protection

Head

- **AT** Protruding, round head, round display
- **AQ** Protruding, square head, round display
- **BT** Flush mounting, round head, round display
- **BQ** Flush mounting, square head, round display

Optional features

- **2LT*** Built-in double lamp test facility
- **TR** Tropicalization
- **FL*** Flying leads

CR 22/30 AT RG 24 HD ●●●●

BASE CODE

Semaphore colors

BICOLOR

- **RG** Red/Green
- **RB** Red/Blue
- **GY** Yellow/Green
- **WW** White/White
- **WRG** White/White [OFF] Red/Green [ON]

TRICOLOR

- **RGY*** Red/Green/Yellow

Power supply voltage

- **24** 24V AC/DC
- **48** 48V AC/DC
- **130** 130V AC/DC
- **230** 230V AC/DC

MultiVoltage

- **U** 24÷240Vac 24÷300Vdc

Upon request, it is possible to configure your product with power supply voltages not listed in the catalogue.

Connection types

- **HD** Faston terminals
- **TV*** Screw terminals
- **ST** Plug-in screw terminals
- **SP** Plug-in spring terminals



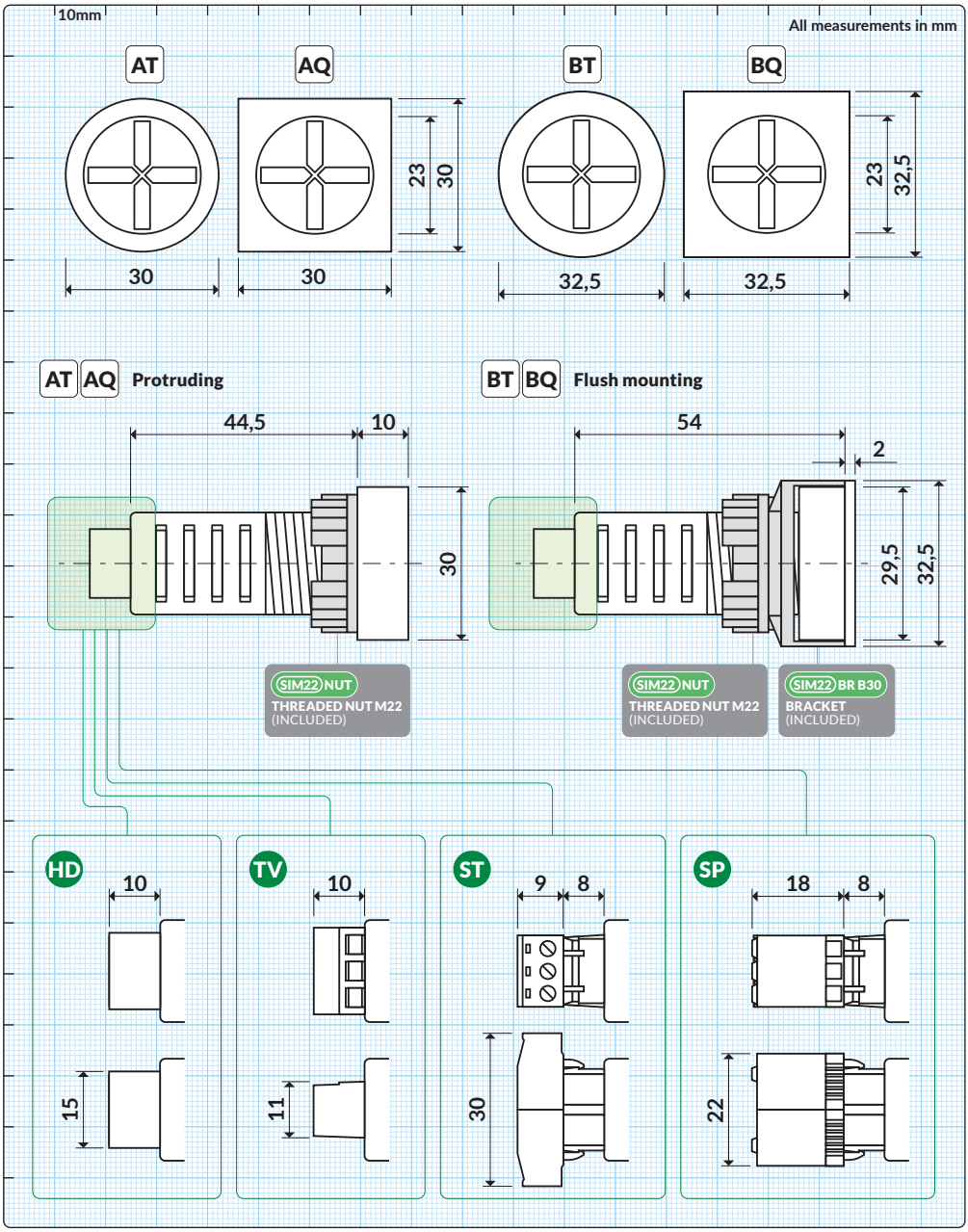
PRODUCT NUMBER (P/N) EXAMPLES

CR22/30 AT RG 24 TV
CR22/30 BQ WW 130 HD LT
CR22/30 AT RG 230 ST TR

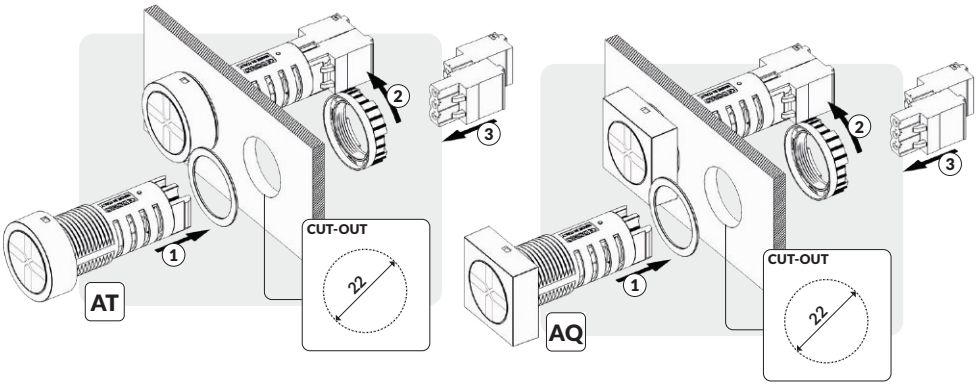
IMPORTANT NOTES ABOUT THIS DEVICE

* TV is not compatible with RGY 2LT
* If FL feature is requested, wiring will be provided according to DOMO standards. More details a few pages further on.

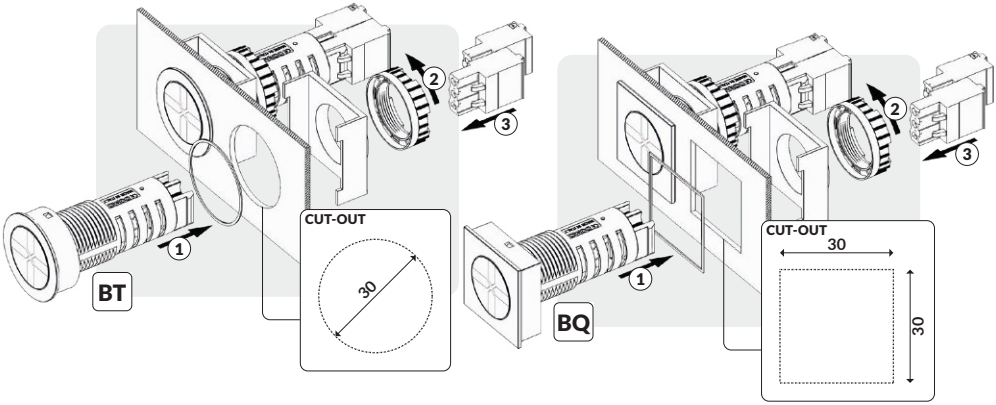
Get the right P/N and avoid mistakes when ordering!
Use our Product Number configurator and request a quote on our website!
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10mm
All measurements in mm
AT
AQ
BT
BQ
30
30
23
30
32,5
32,5
23
32,5
AT AQ Protruding
BT BQ Flush mounting
44,5
10
30
54
2
29,5
32,5
SIM22 NUT
THREADED NUT M22
(INCLUDED)
SIM22 NUT
THREADED NUT M22
(INCLUDED)
SIM22 BR B30
BRACKET
(INCLUDED)
HD
10
15
TV
10
11
ST
9
8
30
SP
18
8
22

Panel mounting (metal sheet) of protruding devices AT AQ
MAX BOARD THICKNESS: **10mm**
CLAMPING: **THREADED NUT M22** (INCLUDED)



Panel mounting (metal sheet) of flush mounting devices BT BQ
MAX BOARD THICKNESS: **4mm**
CLAMPING: **THREADED NUT M22** (INCLUDED) AND **BRAKET** (INCLUDED)



Terminals CR REGULAR

	HD Faston terminals 2,8mm x 0,8mm (DIN 46245)	TV Screw connection with tension sleeve	ST Screw connection with tension sleeve on pluggable terminal blocks	SP Push-in spring connection on pluggable terminal blocks
Nominal current	12A	8A	20A	12A
Nominal voltage	320V	300V	320V	320V
Conductor cross section flexible	0,2mm² ... 2,5mm²	0,3mm² ... 2,0mm²	0,2mm² ... 2,5mm²	0,2mm² ... 2,5mm²
Conductor cross section AWG / kcmil	24 ... 12 AWG	22 ... 14 AWG	24 ... 12 AWG	24 ... 16 AWG
Conductor cross section, flexible, with ferrule, with plastic sleeve	0,2mm² ... 2,5mm²	0,3mm² ... 2,0mm²	0,2mm² ... 2,5mm²	0,2mm² ... 1,5mm²
2 conductors with same cross section, flexible	0,2mm² ... 1,5mm²	-	0,2mm² ... 1,5mm²	-
Tightening torque	**-**	**0,25Nm**	**0,5Nm ... 0,6Nm**	**-**
Stripping length	-	7mm	7mm	11mm
Ferrule length	-	8mm	8mm	12mm



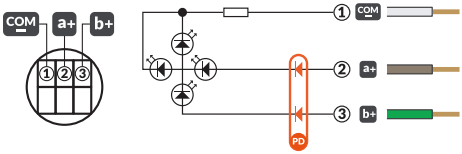
CR REGULAR Semaphore LED indicators

BICOLOR



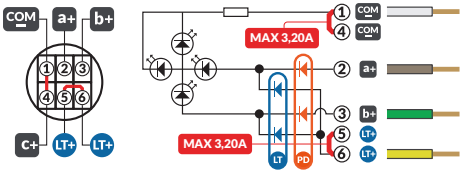
BICOLOR

HD TV ST SP



BICOLOR 2LT

HD ST SP

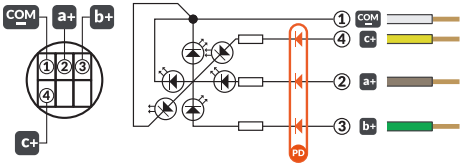


TRICOLOR



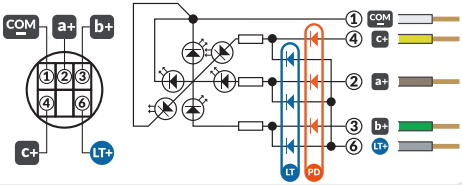
TRICOLOR

HD ST SP



TRICOLOR LT

HD ST SP



Wiring color code according to DIN 47100 color coding.
PD = Built-in protection diode for backfeed protection

Head

- **AT** Protruding, round head, round display
- **AQ** Protruding, square head, round display

Optional features

- **2LT*** Built-in double lamp test facility
- **TR** Tropicalization
- **FL*** Flying leads

CR 22/48 AT RG 24 HD

BASE CODE

Semaphore colors

BICOLOR

- **RG** Red/Green

Power supply voltage

- **24** 24V AC/DC
- **48** 48V AC/DC
- **130** 130V AC/DC
- **230** 230V AC/DC

Upon request, it is possible to configure your product with power supply voltages not listed in the catalogue.

Connection types

- **HD** Faston terminals
- **TV*** Screw terminals
- **ST** Plug-in screw terminals
- **SP** Plug-in spring terminals



PRODUCT NUMBER (P/N) EXAMPLES

CR22/48 AT RG 24 TV
CR22/48 AQ RG 130 HD LT
CR22/48 AQ RG 230 ST

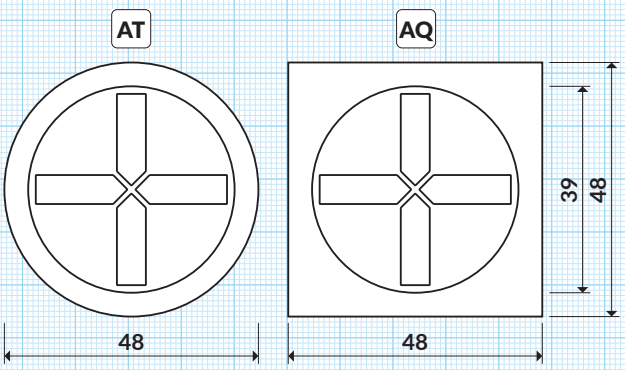
IMPORTANT NOTES ABOUT THIS DEVICE

* 2LT is not compatible with TV
* If FL feature is requested, wiring will be provided according to DOMO standards. More details a few pages further on.

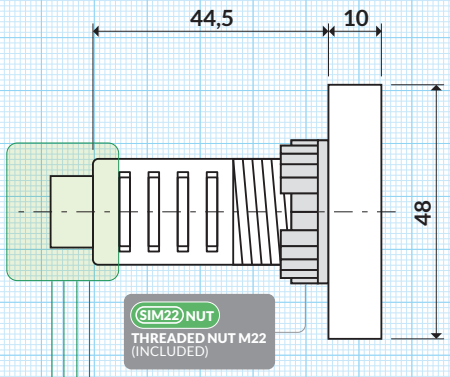
Get the right P/N and avoid mistakes when ordering!
Use our Product Number configurator and request a quote on our website!
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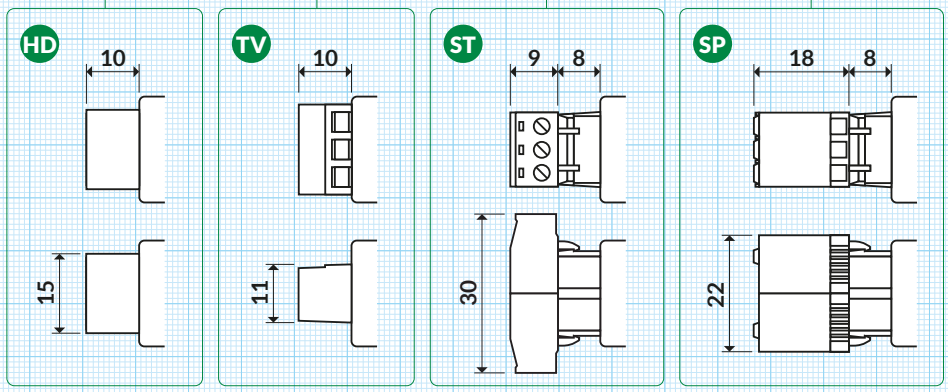
10mm

All measurements in mm

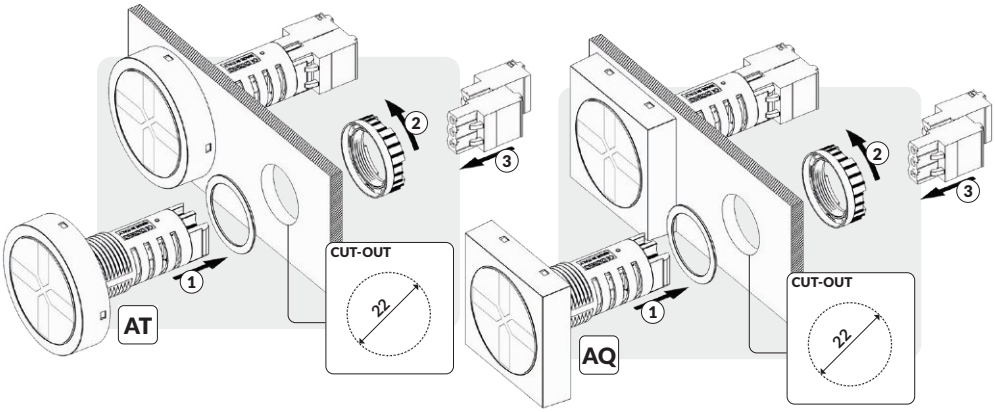


AT AQ Protruding





Panel mounting (metal sheet) of protruding devices AT AQ
MAX BOARD THICKNESS: **10mm**
CLAMPING: **THREADED NUT M22** (INCLUDED)



Terminals CR LARGE

	HD Faston terminals 2,8mm x 0,8mm (DIN 46245)	TV Screw connection with tension sleeve	ST Screw connection with tension sleeve on pluggable terminal blocks	SP Push-in spring connection on pluggable terminal blocks
Nominal current	12A	8A	20A	12A
Nominal voltage	320V	300V	320V	320V
Conductor cross section flexible	0,2mm² ... 2,5mm²	0,3mm² ... 2,0mm²	0,2mm² ... 2,5mm²	0,2mm² ... 2,5mm²
Conductor cross section AWG / kcmil	24 ... 12 AWG	22 ... 14 AWG	24 ... 12 AWG	24 ... 16 AWG
Conductor cross section, flexible, with ferrule, with plastic sleeve	0,2mm² ... 2,5mm²	0,3mm² ... 2,0mm²	0,2mm² ... 2,5mm²	0,2mm² ... 1,5mm²
2 conductors with same cross section, flexible	0,2mm² ... 1,5mm²	-	0,2mm² ... 1,5mm²	-
Tightening torque	**-**	**0,25Nm**	**0,5Nm ... 0,6Nm**	**-**
Stripping length	-	7mm	7mm	11mm
Ferrule length	-	8mm	8mm	12mm



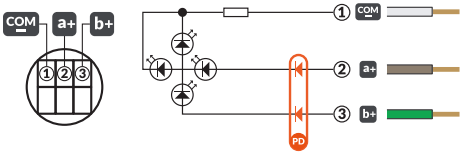
CR LARGE Semaphore LED indicators

BICOLOR



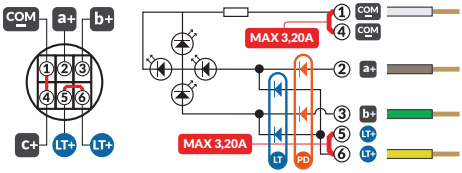
BICOLOR

HD TV ST SP



BICOLOR 2LT

HD ST SP



Wiring color code according to DIN 47100 color coding.
PD = Built-in protection diode for backfeed protection

Diodes voltage values

	Colors	Power supply voltage	LT Lamp test protection diode (Optional feature)	Low-voltage glow protection	Backfeed protection
CR SMALL	RG, GY, WW	24V 48V	-	12V	4000V
		130V 230V	-	56V	4000V
CR REGULAR	RG, RB, GY, WW, WRG	24V 48V 130V 230V	4000V	12V	4000V
		MultiVoltage 24÷240Vac | 24÷300Vdc	1000V	5,1V	1000V
	RGY	24V 48V 130V 230V	2400V	-	-
		MultiVoltage 24÷240Vac | 24÷300Vdc	400V	5,1V	400V
CR LARGE	RG	24V 48V 130V 230V	2400V	-	2400V

Current consumption

CR REGULAR test results

Power supply voltage	BICOLOR Red/Green				MultiVoltage BICOLOR Red/Green			
	AC		DC		AC		DC	
	Red	Green	Red	Green	Red	Green	Red	Green
24V	7,08mA	2,00mA	2,60mA	6,50mA	6,60mA	6,92mA	13,50mA	20,00mA
48V	7,00mA	2,50mA	4,20mA	5,20mA	8,25mA	8,56mA	6,62mA	6,60mA
130V	3,30mA	30,7mA	5,60mA	6,00mA	7,80mA	8,25mA	2,45mA	5,57mA
230V	2,91mA	2,80mA	5,00mA	5,20mA	6,00mA	6,20mA	1,80mA	1,85mA

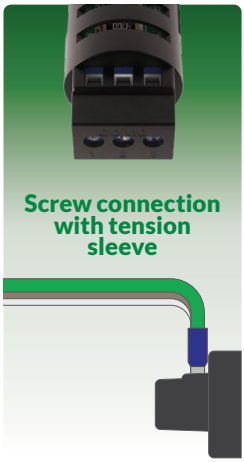
Important note about FL optional feature (flying leads)
If not otherwise specified, flying leads will be provided according to the following DOMO standards.
- Multicore cable cross section 0,5mmq, Min. Class to Reg. UE 305/11 (CPR): Cca-S3, d1,a3.
- Color code according to DIN 47100.
- Cable length: please specify.

Other cabling solutions (section, colors, terminals...): on request.

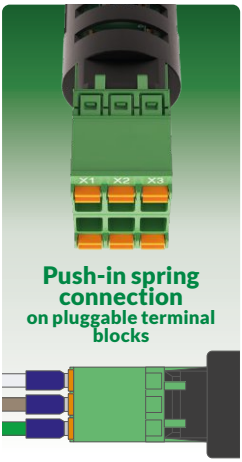
Images
All images depicted in this shortform catalogue are for representational purposes only.
Under no circumstances images are intended to form part of any contract or warranty, unless specifically stated by DOMO.

Connection types









Optional features

Built-in double lamp test facility

A built-in circuit provided with specific diodes allows to test the LEDs functionality with no need of external tools for cabling, no extra work, no extra money and no extra space. “Double” means that the device is equipped with 2 LT and 2 COM- connectors that come useful if you plan to connect your devices in series, so that you can test them all toghether.

Flying leads

Don’t waste your time with cabling: we can cable wires as long and thick as you need and mount them on the connection terminal you choose.

Tropicalization

Enjoy a longer durability: a protective layer covers the whole circuit preventing the potential damages that may occour in dusty, saline, humid and oxidizing environments.

Specific features

Built-in rectifier bridge

Thanks to the built-in rectifier bridge, the device can be powered with both AC or DC power supply without any error.

Backfeed protection

A built-in protection diode absorbs any incidental excess current to avoid reverse feeding, minimizing the risk of LEDs unexpected lighting and hazards to the electrical grid equipment.

Low-voltage glow protection

To avoid the risk of unexpected and random switch-ons, the device will be provided with a Zener diode that properly calibrates the minimum voltage required to switch on the LED Indicator.

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