

## ESSENTIAL EBAR+

EASY TO USE & POWERFUL LED LIGHTING BAR

**IP65**  
PROTECTION

▶ LED LIGHTING SYSTEM ▶ MACHINE VISION APPLICATIONS ▶ HIGH POWERFUL LED ▶ DIRECT LIGHTING ▶ QUALITY CONTROL WITH CAMERA

## SIMPLICITY LEADING TO POWER.



- ✓ high powerful lighting,
- ✓ rising time: 15  $\mu$ s,
- ✓ from 17 cm to 1 m 30.

### 4 VERSIONS AVAILABLE

Besides the **Standard** version, high power LED bar, easy to set and to use, there are 3 other EBAR+ versions:

#### LINK VERSION

Connect it directly to the camera (no power limit).

#### OVERDRIVE VERSION

Power customisable by the user, overdrive up to **X4**

#### EXPERT VERSION

Light managed by a remote controller overdrive up to **X8**

The Essential EBAR+ is a highly powerful LED light, very useful for machine vision applications requiring intense luminous flux. It can be set up downwards, in the same axis as the camera's, or with an angle of incidence, to perfectly illuminate rectangular areas on a production line.

The Essential EBAR+ is very easy to use: you don't have to adjust anything, only to plug it. There are 2 functioning modes: continuous and strobe, with very short rising and falling times (15  $\mu$ s and 10  $\mu$ s).

Its black aluminum structure, very robust, is IP65. It also helps to dissipate the heat generated by the LED. Moreover, 2 LED indicators near the connector show if the product is powered.

The Essential EBAR+ is available in different colours and in multiple lengths, from 17 cm to 1m30.

## 4 VERSIONS AVAILABLE

Besides the **STANDARD version**, 3 other versions are available:



### DIRECT CONNECTION TO THE CAMERA (NO POWER LIMIT)

The LINK version has a specific wiring, compound of 3 M12 connectors. So, you can easily link the light directly to the camera, and if necessary, to supply the light with extra power. You can also connect several lights one to another, for a perfect signal synchronisation. The LINK version perfectly fits high speed production lines.



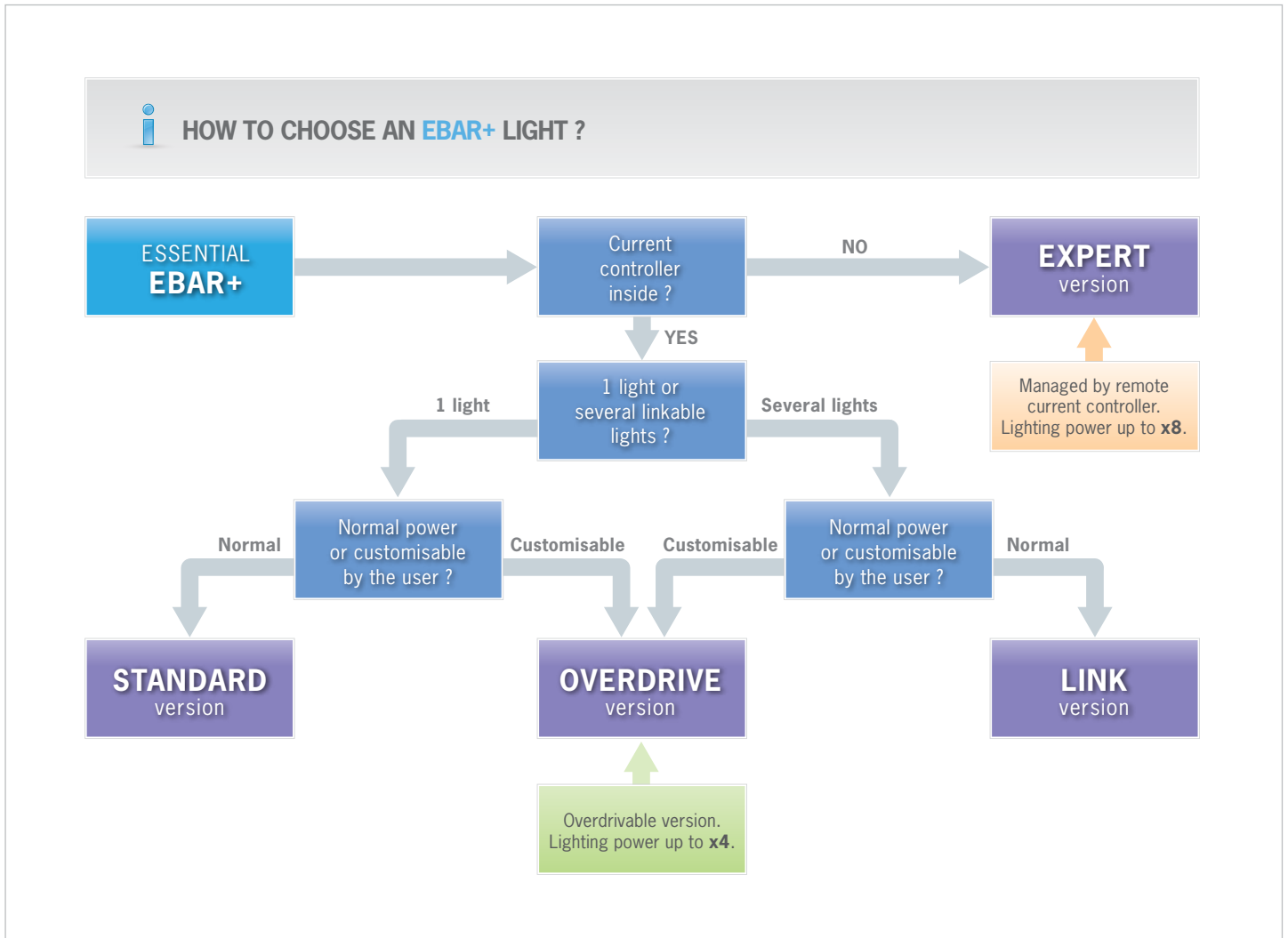
### OVERDRIVE UP TO x4 WITH CURRENT CONTROL INSIDE

The OVERDRIVE version is just as easy to set and to use as the STANDARD version. Equipped with specific electronics, it gives the opportunity for users to overdrive on their own the lighting power. The OVERDRIVE version is dedicated to specialists who want to customize the luminous flux very precisely, so as to get the most reliable results.



### OVERDRIVE UP TO x8 WITH YOUR OWN CONTROLLER

In the EXPERT version, the products do not have any current controller, which is very useful for users who want to work with their own controllers. In strobe mode, they can use the EXPERT lights in overdrive, so as to get a more intense light power. The EXPERT version definitely targets machine vision specialists, able to manage a whole vision system.



Features and presentations liable to modifications without prior notice. Documentation valid from June 2017 until further notice. D-1 version, 2019/06 Edition

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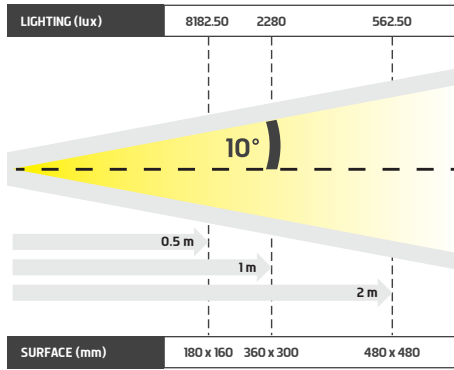
#### Other available documents :

- PDF, DWG, DXF, IGS, STEP & X\_Y DRAWINGS
- USER'S GUIDE

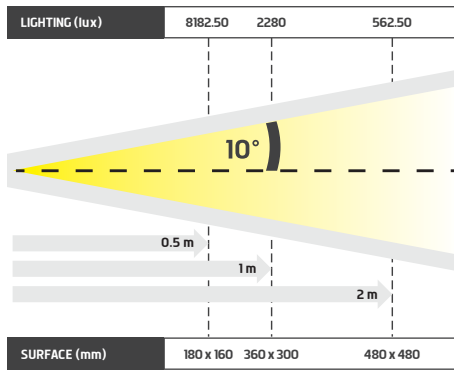
**Essential EBAR+**



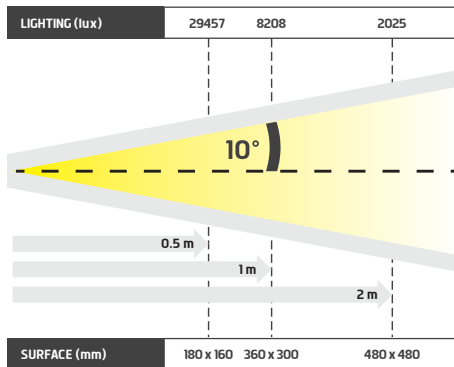
# LIGHTING AREAS



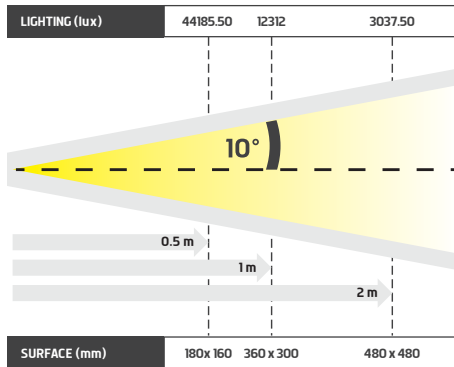
► Demo for EBAR+ 125



► Demo for EBAR+ Link 125



► Demo for EBAR+ Overdrive 125



► Demo for EBAR+ Expert 125

EBAR+	Distance : 0.5 m		Distance : 1 m		Distance : 2 m	
	Max. value	Lighting area	Max. value	Lighting area	Max. value	Lighting area
EBAR+ 125	8182.50	180x160 mm	2280.00	360x300 mm	562.50	480x480 mm
EBAR+ 250	12337.50	200x160 mm	4027.50	300x300 mm	1065.00	400x480 mm
EBAR+ 375	13927.50	280x160 mm	5280.00	360x260 mm	1507.50	520x480 mm
EBAR+ 500	14302.50	400x170 mm	6120.00	400x260 mm	1890.00	560x480 mm
EBAR+ 625	14505.00	460x170 mm	6652.50	500x300 mm	2212.50	560x500 mm
EBAR+ 750	14565.00	520x170 mm	6885.00	580x300 mm	2475.00	600x500 mm
EBAR+ 875	14647.50	740x170 mm	7012.50	660x260 mm	2692.50	680x500 mm
EBAR+ 1000	14647.50	860x170 mm	7087.50	800x300 mm	2872.50	760x530 mm
EBAR+ 1125	14647.50	1160x180 mm	7147.50	920x300 mm	3015.00	840x540 mm
EBAR+ 1250	14647.50	1200x180 mm	7177.50	1000x300 mm	3120.00	920x540 mm

(white light measures)

EBAR+ Link	Distance : 0.5 m		Distance : 1 m		Distance : 2 m	
	Max. value	Lighting area	Max. value	Lighting area	Max. value	Lighting area
EBAR+ Link 125	8182.50	180x160 mm	2280.00	360x300 mm	562.50	480x480 mm
EBAR+ Link 250	12337.50	200x160 mm	4027.50	300x300 mm	1065.00	400x480 mm
EBAR+ Link 375	13927.50	280x160 mm	5280.00	360x260 mm	1507.50	520x480 mm
EBAR+ Link 500	14302.50	400x170 mm	6120.00	400x260 mm	1890.00	560x480 mm
EBAR+ Link 625	14505.00	460x170 mm	6652.50	500x300 mm	2212.50	560x500 mm
EBAR+ Link 750	14565.00	520x170 mm	6885.00	580x300 mm	2475.00	600x500 mm
EBAR+ Link 875	14647.50	740x170 mm	7012.50	660x260 mm	2692.50	680x500 mm
EBAR+ Link 1000	14647.50	860x170 mm	7087.50	800x300 mm	2872.50	760x530 mm
EBAR+ Link 1125	14647.50	1160x180 mm	7147.50	920x300 mm	3015.00	840x540 mm
EBAR+ Link 1250	14647.50	1200x180 mm	7177.50	1000x300 mm	3120.00	920x540 mm

(white light measures)

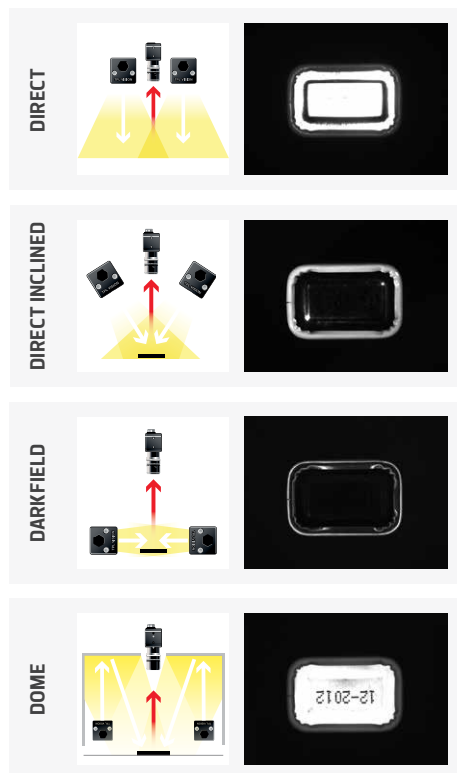
EBAR+ Overdrive	Distance : 0.5 m		Distance : 1 m		Distance : 2 m	
	Max. value	Lighting area	Max. value	Lighting area	Max. value	Lighting area
EBAR+ Overdrive 125	29457.00	180x160 mm	8208.00	360x300 mm	2025.00	480x480 mm
EBAR+ Overdrive 250	44415.00	200x160 mm	14499.00	300x300 mm	3834.00	400x480 mm
EBAR+ Overdrive 375	50139.00	280x160 mm	19008.00	360x260 mm	5427.00	520x480 mm
EBAR+ Overdrive 500	51489.00	400x170 mm	22032.00	400x260 mm	6804.00	560x480 mm
EBAR+ Overdrive 625	52218.00	460x170 mm	23949.00	500x300 mm	7965.00	560x500 mm
EBAR+ Overdrive 750	52434.00	520x170 mm	24786.00	580x300 mm	8910.00	600x500 mm
EBAR+ Overdrive 875	52731.00	740x170 mm	25245.00	660x260 mm	9693.00	680x500 mm
EBAR+ Overdrive 1000	52731.00	860x170 mm	25515.00	800x300 mm	10341.00	760x530 mm
EBAR+ Overdrive 1125	52731.00	1160x180 mm	25731.00	920x300 mm	10854.00	840x540 mm
EBAR+ Overdrive 1250	52731.00	1200x180 mm	25839.00	1000x300 mm	11232.00	920x540 mm

(white light measures)

EBAR+ Expert	Distance : 0.5 m		Distance : 1 m		Distance : 2 m	
	Max. value	Lighting area	Max. value	Lighting area	Max. value	Lighting area
EBAR+ Expert 125	44185.50	180x160 mm	12312.00	360x300 mm	3037.50	480x480 mm
EBAR+ Expert 250	66622.50	200x160 mm	21748.50	300x300 mm	5751.00	400x480 mm
EBAR+ Expert 375	75208.50	280x160 mm	28512.00	360x260 mm	8140.50	520x480 mm
EBAR+ Expert 500	77233.50	400x170 mm	33048.00	400x260 mm	10206.00	560x480 mm
EBAR+ Expert 625	78327.00	460x170 mm	35923.50	500x300 mm	11947.50	560x500 mm
EBAR+ Expert 750	78651.00	520x170 mm	37179.00	580x300 mm	13365.00	600x500 mm
EBAR+ Expert 875	79096.50	740x170 mm	37867.50	660x260 mm	14539.50	680x500 mm
EBAR+ Expert 1000	79096.50	860x170 mm	38272.50	800x300 mm	15511.50	760x530 mm
EBAR+ Expert 1125	79096.50	1160x180 mm	38596.50	920x300 mm	16281.00	840x540 mm
EBAR+ Expert 1250	79096.50	1200x180 mm	38758.50	1000x300 mm	16848.00	920x540 mm

(white light measures)

## TECHNICAL SPECIFICATIONS



	EBAR+	EBAR+ Link	EBAR+ Overdrive	EBAR+ Expert
<b>General information</b>				
Power supply	24 VDC ±10%	24 VDC ±10%	24 VDC ±10%	External Control Current Drive
Max standard length (mm)	1250	1250	2500	3125
Functioning mode	CW + STR	CW + STR	CW + STR	CW + STR*
Overdrive	No	No	Yes	Yes
Strobe conditions (On time, duty cycle)	No restriction	No restriction	x3 : 2ms @ 5%	See user guide
Strobe input	24VDC PNP & NPN	24VDC PNP & NPN	24VDC PNP & NPN	N/A
Dimming	0-10V = 100%-20%	0-10V = 100%-20%	0-10V = 100%-20%	N/A
Maximum rising time	15µs	15µs	15µs	User's conditions
Maximum falling time	10µs	10µs	15µs	User's conditions
Wiring	1x male M12 5 poles	2x male M12 5 poles 1x female M12 5 poles	1x male M12 4 poles** 1x male M12 5 poles 1x female M12 5 poles	1x male M12 4 poles**
<b>Materials</b>				
Body materials	Aluminum			
Finish	Anodization			
Connector materials	Loaded ABS			
Diffuser option	Abrasion-resistant Polycarbonate			
<b>Environment</b>				
Operating temperature	-10° to +40°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)			
Storage temperature	-20° to +60°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)			
IP protection	IP 65***			
Labels	RoHS-CE-WEEE			

PNP : From 5 to 24V for 100% ON. From 0 to 1V for 100% OFF.  
NPN : less than 1V for 100% ON. Above 2V for 100% OFF. Max 20V.

\* According to conditions of use  
\*\* Use a special cable TPower 4 poles  
\*\*\* Liable to the use of a TPL Vision IP65 cable

EBAR+	Max standard length 1250mm									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A) through power supply	0,4	0,8	1,2	1,6	2	2,4	2,8	3,2	3,6	4
Max. Consumption (W)	9,6	19,2	28,8	38,4	48	57,6	67,2	76,8	86,4	96
Max voltage drop in the bar (V)	0,01	0,03	0,06	0,11	0,17	0,25	0,34	0,44	0,56	0,69
Power supply cable : max length 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Lenses	± 7°, ± 10°, ± 17°, ± 25°, ± 9-16°, NL									
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) ±10%	255	476	698	919	1140	1361	1583	1804	2025	2246
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts									





EBAR+ Link	Max standard length 1250mm									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A) through power supply	0,4	0,8	1,2	1,6	2	2,4	2,8	3,2	3,6	4
Max. Consumption (W)	9,6	19,2	28,8	38,4	48	57,6	67,2	76,8	86,4	96
Max voltage drop in the bar (V)	0,07	0,14	0,21	0,28	0,35	0,42	0,49	0,56	0,63	0,70
Power supply cable : max length 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
Linking cable : Lg max 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Lenses	± 7°, ± 10°, ± 17°, ± 25°, ± 9-16°, NL									
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts									

EBAR+ Overdrive	Max standard length 2500mm									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A) through power supply	2	4	6	8	10	12	14	16	18	20
Average current (A) through power supply	0.46	0.92	1.38	1.84	2.3	2.76	3.22	3.68	4.14	4.6
Max. Consumption (W)	48	96	144	192	240	288	336	384	432	480
Average consumption (W)	11.1	22.2	33.3	44.4	55.5	66.6	77.7	88.8	99.9	111
Max voltage drop in the bar (V)	0.01	0.03	0.06	0.12	0.18	0.26	0.35	0.46	0.58	0.72
Power supply cable : max length 4x1,5 <sup>2</sup> for acceptable voltage drop (m)	>150	>150	>150	>150	138	112	94	80	68	59
Linking cable : Lg max 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Lenses	± 7°, ± 10°, ± 17°, ± 25°, ± 9-16°, NL									
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts / 1250<Lg<2500 : 4 nuts									

EBAR+ Expert	Max standard length 3125mm									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A)	Up to 1125mm : 2,5A/125mm except for IR: 2A/125mm. Above 1125mm : 24A max									
Max voltage drop in the bar (V) under max current	0,01	0,04	0,09	0,17	0,26	0,38	0,51	0,67	0,84	0,92
Power supply cable : max length 4x1,5 <sup>2</sup> for acceptable voltage drop (m)	52	25	16	12	9	7	5	4	3	2
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Lenses	± 7°, ± 10°, ± 17°, ± 25°, ± 9-16°, NL									
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts / 1250<Lg<2500 : 4 nuts / 2500<Lg<3125 : 5 nuts									

# HOW TO BUILD YOUR REFERENCE

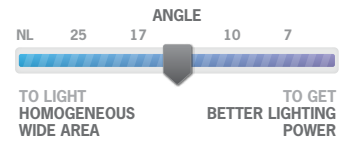
## REQUIRED SETTINGS

EBAR	VERSION	USEFUL DIMENSION	COLOUR	LENS/ OPTIC ANGLE
	STANDARD	125 (= 5 LED)	WHI 	7 ± 7°
	O OVERDRIVE	250 (= 10 LED)	630 	10 ± 10°
	L LINK	375 (= 15 LED)	525 	9-16 ± 9°/16°
	E EXPERT	500 (= 20 LED)	470 	17 ± 17°
		625 (= 25 LED)	850 	25 ± 25°
		750 (= 30 LED)		NL NO LENS
		875 (= 35 LED)		
		1000 (= 40 LED)		
		1125 (= 45 LED)		
		1250 (= 50 LED)		

**INFORMATION ABOUT LENSES**

**NARROW ANGLE** = GIVE PRIORITY TO LIGHTING POWER

**WIDE ANGLE** = GIVE PRIORITY TO HOMOGENEITY AND WIDE AREA



### EXAMPLES :

EBAR+ Standard 125 mm white LED ± 10° IP65 rating → **EBAR-125-WHI-10**  
 EBAR+ Overdrive 250 mm red LED ± 17° IP65 rating → **EBAR-O-250-630-17**  
 EBAR+ Expert 500 mm blue LED ± 25° IP65 rating → **EBAR-E-500-470-25**

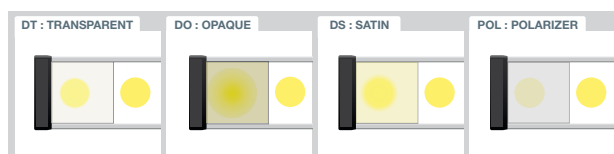
## DIFFUSERS

By default, the EBAR+ is delivered with a transparent diffuser. To order more diffusers (or polarizers), please use the following reference builder :

DIFFUSER	BAR	DIMENSION
DT TRANSPARENT		125
DO OPAQUE		250
DS SATIN		375
POL POLARIZER		500
		625
		750
		875
		1000
		1125
		1250

### EXAMPLES :


Transparent diffuser for bar 250 mm :  
 → **DT-BAR-250**  
 Satin diffuser for bar 1000 mm :  
 → **DS-BAR-1000**



## RELATED PRODUCTS

**M12 female 5 pins cable**


Compatible : Standard, LINK & OVERDRIVE versions



2 meters	Ref: C-M12-5P-2M
5 meters	Ref: C-M12-5P-5M
10 meters	Ref: C-M12-5P-10M

**M12 female/M12 male 5 pins extension cable**

Compatible : LINK & OVERDRIVE versions (daisy chain)



5 meters	Ref: RA-M12-FM-5P-5M
10 meters	Ref: RA-M12-FM-5P-10M

**M12 female T-Power 4 pins cable**

Compatible : OVERDRIVE (24V power supply) & EXPERT versions



2 meters	Ref: C-M12-4P-T-2M
5 meters	Ref: C-M12-4P-T-5M
10 meters	Ref: C-M12-4P-T-10M

**Safety glasses**



Ref: EYE-PROTECT

**Accessory : Bar BMOUNT**



Ref: BMOUNT

**Accessory : Swivel Mount**



Ref: SWIVEL-MOUNT