



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.

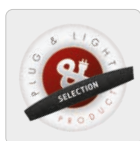


LINK
VERSION



SOLID BODY

BLACK ANODIZED
ALUMINUM



- ✓ high powerful lighting,
- ✓ rising time: 15 μ s,
- ✓ from 125 mm to 1250 mm,
OverDrive: up to 2500 mm.

M12 CONNECTOR

3 VERSIONS AVAILABLE

STANDARD VERSION

High power LED bar,
easy to set and to use.

LINK VERSION

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

OVERDRIVE VERSION

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

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 μ s and 10 μ 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.

3 VERSIONS AVAILABLE

Besides the **STANDARD version**, 2 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.

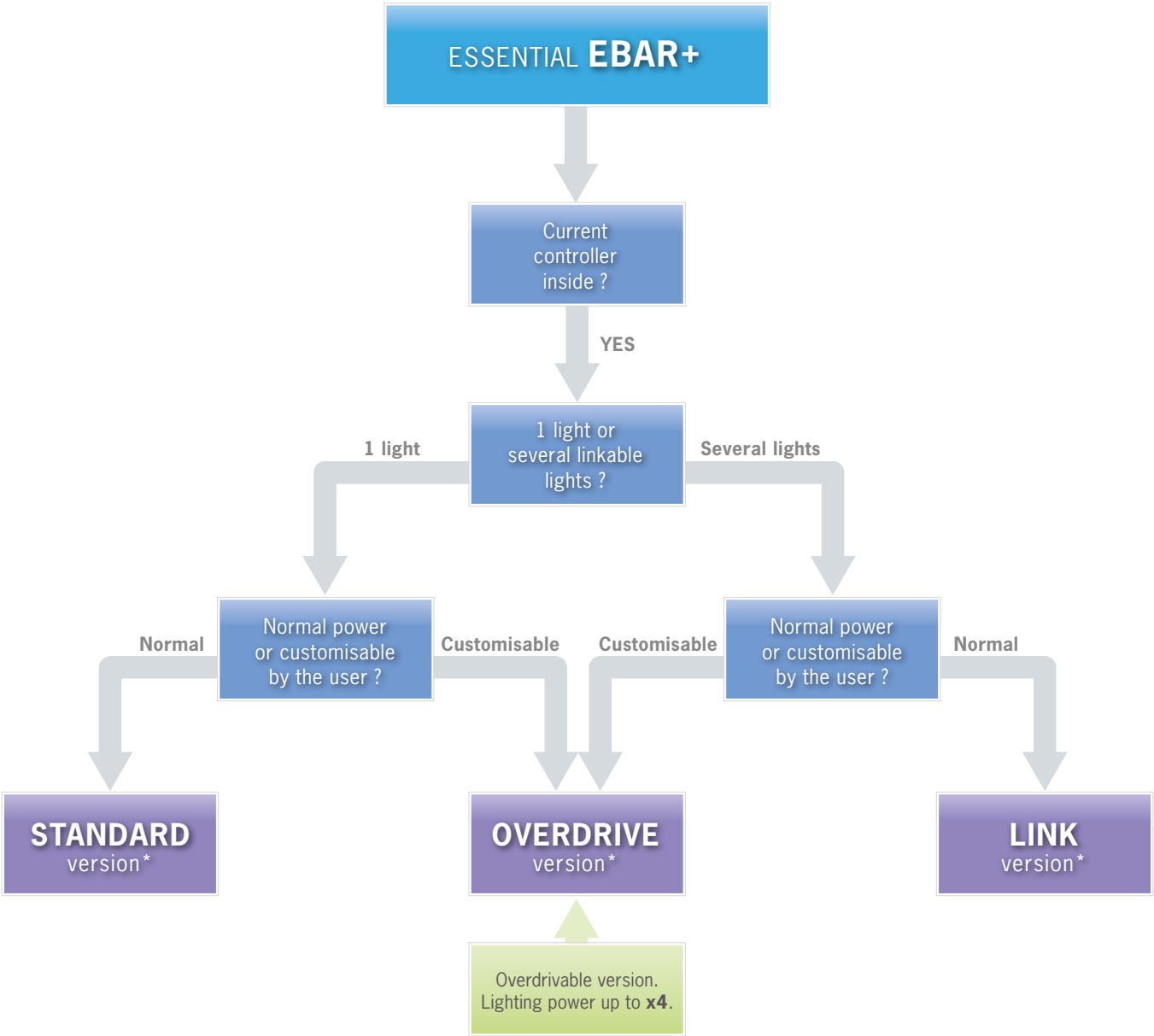


OVERDRIVE UP TO **X4** WITH CURRENT CONTROL INSIDE

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.

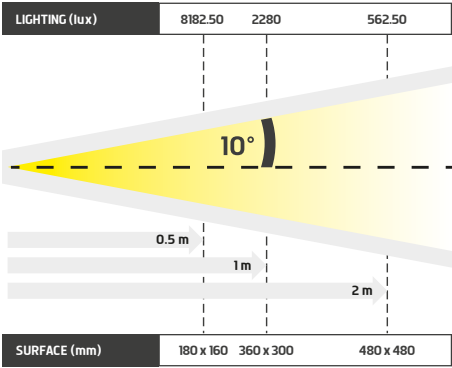


HOW TO CHOOSE AN **EBAR+** LIGHT ?



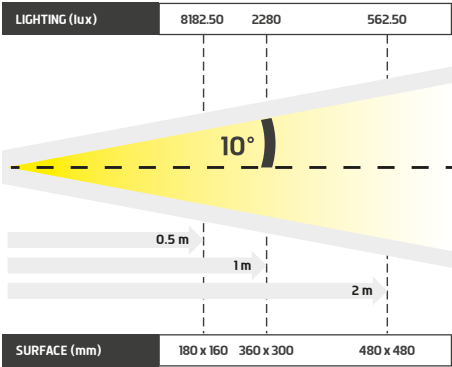
*EBAR+ Overdrive available up to **2500mm**, EBAR+ Standard & EBAR+ Link up to **1250mm**.

LIGHTING AREAS



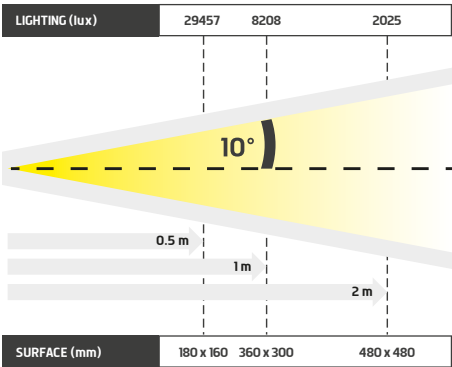
► Demo for EBAR+ 125

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)						



► Demo for EBAR+ Link 125

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)						

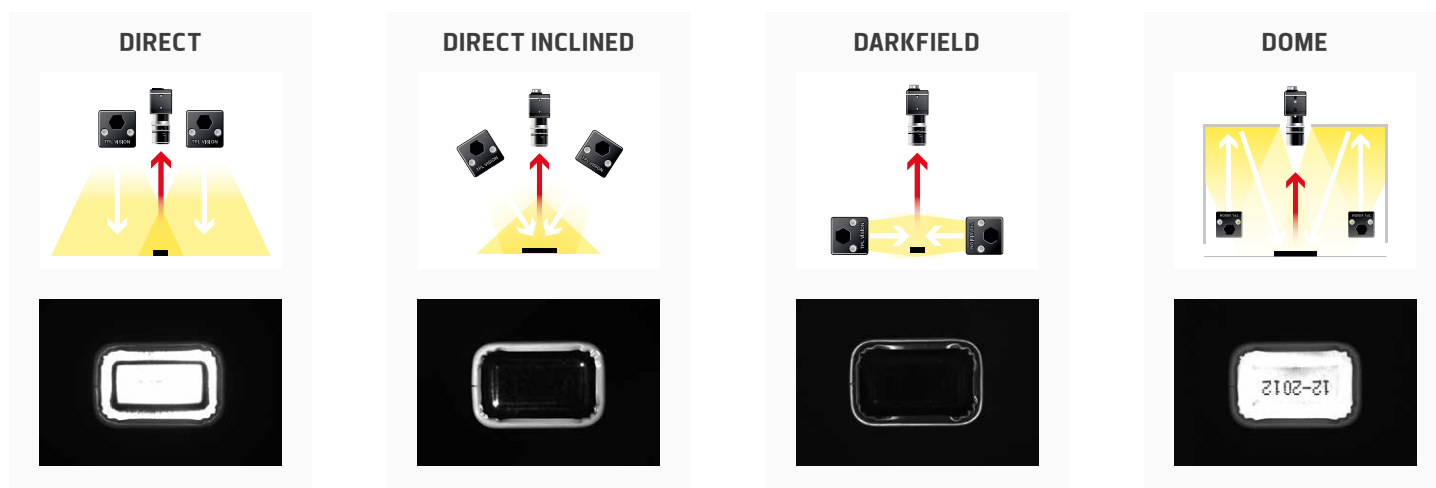


► Demo for EBAR+ Overdrive 125

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+ Overdrive available in sizes up to 2500mm.

LIGHTING METHODS



TECHNICAL SPECIFICATIONS

	EBAR+	EBAR+ Link	EBAR+ Overdrive
General information			
Power supply	24 VDC ±10%	24 VDC ±10%	24 VDC ±10%
Max standard length (mm)	1250	1250	2500
Functioning mode	CW + STR	CW + STR	CW + STR
Overdrive	No	No	Yes
Strobe conditions (On time, duty cycle)	No restriction	No restriction	x3 : 2ms @ 5%
Strobe input	24VDC PNP & NPN	24VDC PNP & NPN	24VDC PNP & NPN
Dimming	0-10V = 100%-20%	0-10V = 100%-20%	0-10V = 100%-20%
Maximum rising time	15µs	15µs	15µs
Maximum falling time	10µs	10µs	15µs
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
Materials			
Body materials	Aluminum		
Finish	Anodization		
Connector materials	Loaded ABS		
Diffuser option	Abrasion-resistant Polycarbonate		
Environment			
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***		
Information			
Labels	RoHS / CE / UKCA / WEEE		
Country of Origin	Made in France		
Tariff Number	94054990		

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.

** Use a special cable T-Power 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
Electronics										
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 5x0,34² for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
Optics										
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									
Mechanics										
Total length (mm)	158	283	408	533	658	783	909	1034	1160	1285
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	877	1002	1128	1253
Useful width (mm)	31,5									
Weight (g) ±10%	255	476	698	919	1140	1361	1583	1804	2025	2246
Fixing	M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Length (Lg) < 500 mm: 2 nuts M4 500 mm ≤ Lg < 1000 mm: 4 nuts M4 1000 mm ≤ Lg ≤ 1250 mm: 6 nuts M4									

EBAR+ Link	Max standard length 1250mm									
	125	250	375	500	625	750	875	1000	1125	1250
Electronics										
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 ² for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
Linking cable : Lg max 5x0,34 ² for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
Optics										
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									
Mechanics										
Total length (mm)	158	283	408	533	658	783	909	1034	1160	1285
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	877	1002	1128	1253
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Length (Lg) < 500 mm: 2 nuts M4 500 mm ≤ Lg < 1000 mm: 4 nuts M4 1000 mm ≤ Lg ≤ 1250 mm: 6 nuts M4									

EBAR+ Overdrive	Max standard length 2500mm*									
	125	250	375	500	625	750	875	1000	1125	1250
Electronics										
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 4x1,5² for acceptable voltage drop (m)	>150	>150	>150	>150	138	112	94	80	68	59
Linking cable : Lg max 5x0,34² for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
Optics										
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									
Mechanics										
Total length (mm)	158	283	408	533	658	783	909	1034	1160	1285
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	877	1002	1128	1253
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Length (Lg) < 500 mm: 2 nuts M4 500 mm ≤ Lg < 1000 mm: 4 nuts M4 1000 mm ≤ Lg < 1500 mm: 6 nuts M4 1500mm ≤ Lg < 2000mm: 8 nuts M4 2000mm ≤ Lg ≤ 2500mm: 10 nuts M4									

* All information regarding sizes and power characteristics for sizes 1375mm to 2500mm can be found in the user guide.

HOW TO BUILD YOUR REFERENCE

REQUIRED SETTINGS

EBAR	VERSION	USEFUL DIMENSION	COLOUR	LENS/ OPTIC ANGLE
	STANDARD	125 (= 5 LED)	WHI	7 $\pm 7^\circ$
	O OVERDRIVE	250 (= 10 LED)	630	10 $\pm 10^\circ$
	L LINK	375 (= 15 LED)	525	9-16 $\pm 9^\circ/16^\circ$
		500 (= 20 LED)	470	17 $\pm 17^\circ$
		625 (= 25 LED)	850	25 $\pm 25^\circ$
		750 (= 30 LED)		NL NO LENS
		875 (= 35 LED)		
		1000 (= 40 LED)		
		1125 (= 45 LED)		
		1250 (= 50 LED)		
		1375 (= 55 LED)		
		1500 (= 60 LED)		
		1625 (= 65 LED)		
		1750 (= 70 LED)		
		1875 (= 75 LED)		
		2000 (= 80 LED)		
		2125 (= 85 LED)		
		2250 (= 90 LED)		
		2375 (= 95 LED)		
		2500 (= 100 LED)		

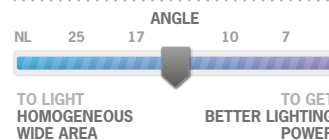
OVERDRIVE ONLY



INFORMATION ABOUT LENSES

NARROW ANGLE = GIVE PRIORITY TO LIGHTING POWER

WIDE ANGLE = GIVE PRIORITY TO HOMOGENEITY AND WIDE AREA



Lens $\pm 7^\circ$: good for use with **Angle Changers** for added flexibility.
(see following page)



EXAMPLES OF REFERENCES:

EBAR+ Standard 125 mm white LED $\pm 10^\circ$ IP65 rating $\Rightarrow$ **EBAR-125-WHI-10**

EBAR+ Overdrive 250 mm red LED $\pm 17^\circ$ IP65 rating $\Rightarrow$ **EBAR-O-250-630-17**

EBAR+ Link 500 mm blue LED $\pm 25^\circ$ IP65 rating $\Rightarrow$ **EBAR-L-500-470-25**

DIFFUSERS

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

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

* EXCEPT FOR IR 850

EXAMPLES :

Transparent diffuser for bar 250 mm :

$\Rightarrow$ **DT-BAR-250**

Satin diffuser for bar 1000 mm :

$\Rightarrow$ **DS-BAR-1000**



CABLES

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 version
(24V power supply)



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

ANGLE CHANGERS (Only for EBAR ±7°, up to 1250mm - Not compatible with UV).

ANGLE CHANGERS



Narrow	Ref: AC-EBAR-N
Medium	Ref: AC-EBAR-M
Wide	Ref: AC-EBAR-W
Line Light	Ref: AC-EBAR-L
Transparent	Ref: AC-EBAR-T

POLARISED ANGLE CHANGERS



Narrow Pol.	Ref: AC-EBAR-NP1
Medium Pol.	Ref: AC-EBAR-MP1
Wide Pol.	Ref: AC-EBAR-WP1
Line Light Pol.	Ref: AC-EBAR-LP1
Polariser only	Ref: AC-EBAR-POL1

SMALL COMBO

Reference:
AC-CO-SM-B



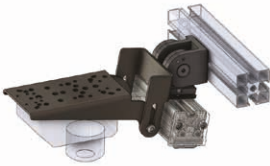
CONTENT OF THE COMBO:

8x AC-EBAR-N | 8x AC-EBAR-M | 8x AC-EBAR-W
8x AC-EBAR-L | 4x AC-EBAR-POL1 | 4x AC-EBAR-T
4x AC-EBAR-BK* | 1x AC-EBAR-B**

* AC-EBAR-BK = Black Angle Changer. Only available as part of
Angle Changer Combos. ** AC-EBAR-B = Briefcase.

ACCESSORIES

Mounting accessory for camera



Ref: TPL-MOUNT-BAR-H1

Mounting accessory for camera



Ref: TPL-MOUNT-BAR-V1

Mounting accessory



Ref: TPL-MOUNT-BAR-SQUARE1

Mounting accessory



Ref: BMOUNT

Mounting accessory



Ref: SWIVEL-MOUNT

Safety glasses



Ref: EYE-PROTECT

Features and presentations liable to modifications without prior notice. Documentation valid from June 2017 until further notice. Ref.TS-010401-F6, 2024/04 Edition

TPL VISION UK

Brenchley House - School Road - Charing - Kent TN27 0JW - UK

Tel. +44 (0)1738 310 392 - contact@tpl-vision.co.uk

www.tpl-vision.com



Other available documents :

- PDF, DWG, DXF, IGS, STEP & X_Y DRAWINGS
- USER'S GUIDE

Essential EBAR+

RoHS

CE