

MX PRO 2 TUNNEL

MAIN CHARACTERISTICS

Applications	Tunnel lighting.
Optic	AS-xx: Asymmetrical optics for reinforcement lighting of road tunnels. TS-xx: Symmetrical optics for reinforcement and permanent lighting of road tunnels. SV: Asymmetrical optics extra narrow beam. STE-S / STU-S: Asymmetrical narrow-emission optics. STE-M / STU-M: Asymmetrical medium emission optics. STW / STA: Asymmetrical optics wide emission. S05 / S07: Asymmetrical optics extra-wide emission. Colour temperature: 4000K (others optional) CRI≥70 LOR= 100%, DLOR= 100%, ULOR= 0% Photobiological safety class: EXEMPT GROUP LED source efficiency: 185 lm/W @ 140mA, Tj=85°C, 4000K
Insulation class	II, I
Protection degree	IP66/IP67 IK09 total
Dimensions	See the drawing
Weight	max 10kg (without fixing flange)
Exposed surface	Bracket A: Side: 0.035m ² - Top: 0.21m ² Bracket C: Side: 0.039m ² - Top: 0.24m ²
Mounting	Mounting with integrated bracket for universal channel or ceiling mounting. Optional: adjustable bracket for channel from 100x75mm to 300x75mm with quick release.
Tilt Angle	0°. Other inclinations on request
LED Modules	Removable / Replaceable.
Gear tray	Tool-free opening of wiring compartment. Removable wiring.
Operating temp.	-40°C / +55°C
Storage temp	-40°C / +80°C
Main reference standards	EN 60598-1, EN 60598-2-3, EN 60598-2-5, IEC 62471, PD EPRS 003 / EN 62722-2-1 2016 EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3



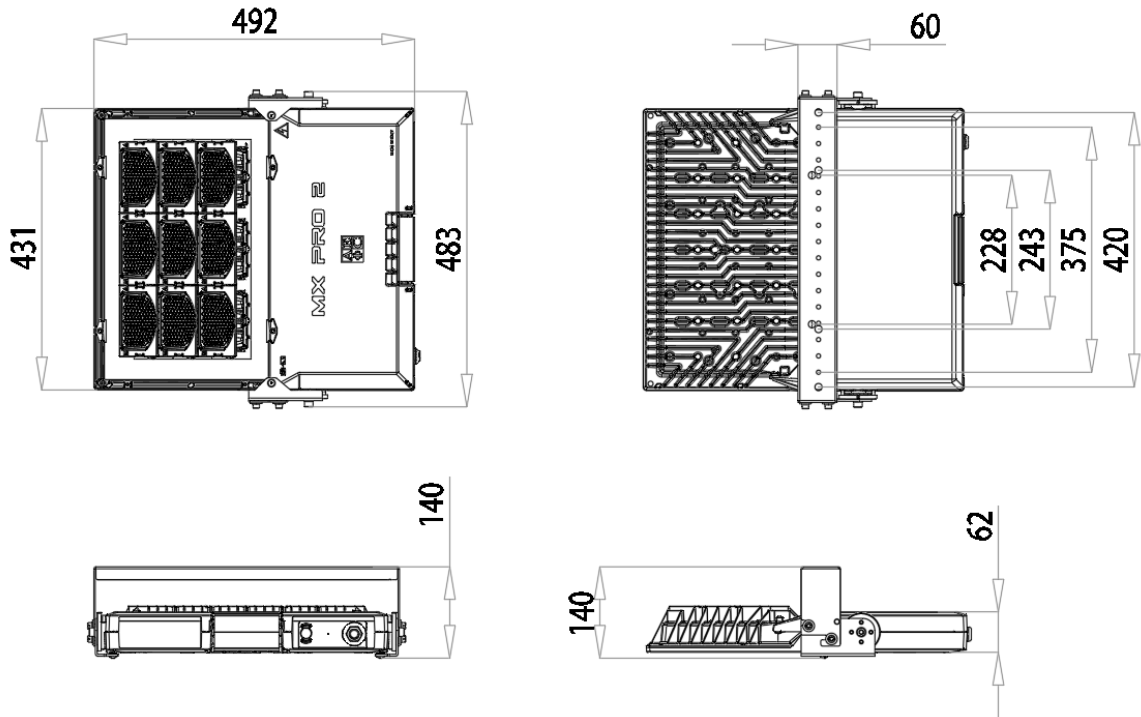
ELECTRICAL CHARACTERISTICS

Rated voltage	220+240V 50/60Hz (Standard tolerance +/-10%, other voltages and tolerances upon request)
Power factor	>0,95 (at full load - F)
Mains connection	Cable: FG16-OM16 0.6/1kV L=1.5 m (other types on request) F / ZHAGA: 2x1,5mm ² (CL.II) / 3x1,5mm ² (CL.I) DALI: 4x1,5mm ² (CL.II) / 5x1,5mm ² (CL.I) Optionally: Fireproof cable FTG18-OM16 0.6/1kV L=1.5 m Optionally: plug IEC309 2P+E 16A IP67 (other types on request) Optionally: separate Network/Control Cables: Network: 2/3x1,5mm ² / DALI: 2x1,5mm ²
Surge protection	Up to 12kV With SPD: CL.II: 10kV / 10kV CM/DM CL.I: 12kV / 10kV CM/DM Without SPD: CL.II: 10kV / 6kV CM/DM CL.I: 10kV / 6kV CM/DM
SPD (optional)	12kV-10kA, type 2+3, with LED signal and thermo fuse to disconnect load at the end of life.
Control system (options)	F: Fixed power not dimmable. DALI: Digital dimming interface DALI. ZHAGA: Socket 4 pin (ZHAGA Book 18). FLC: Constant light flux.
Optical unit lifetime (Tq=25°C)	>100.000hr L90B10 >100.000hr L90, TM-21

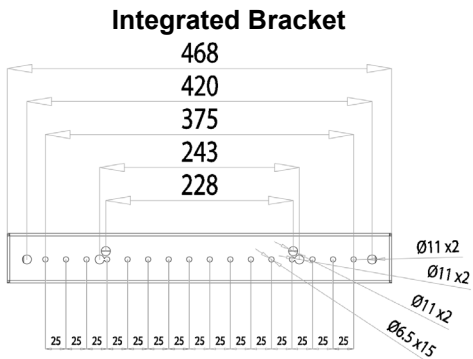
MATERIALS

Fixing	AISI 304 stainless steel with thermoplastic galvanic insulators.
Lower frame	Die-cast aluminum UNI EN1706 powder painted.
Upper canopy	
Closure hook	Extruded aluminium with stainless steel spring.
Optic	99.85% aluminum with a surface finish in 99.95% with vacuum-sealed deposition. Aluminum grade class A+ (DIN EN 16268)
Screen	Flat tempered glass, 5mm thickness high transparency.
Cable gland	Metallic M20x1.5 / M25x1.5 - IP68
Gasket	Polyurethane without joints.
Colour	Graphite - Cod. 01

BRACKET A
DIMENSIONAL DRAWING

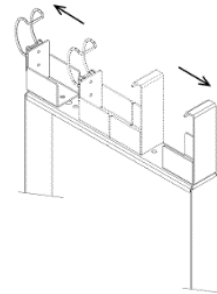


DETAIL OF FIXING BRACKETS



Weight Bracket: 1.4 kg

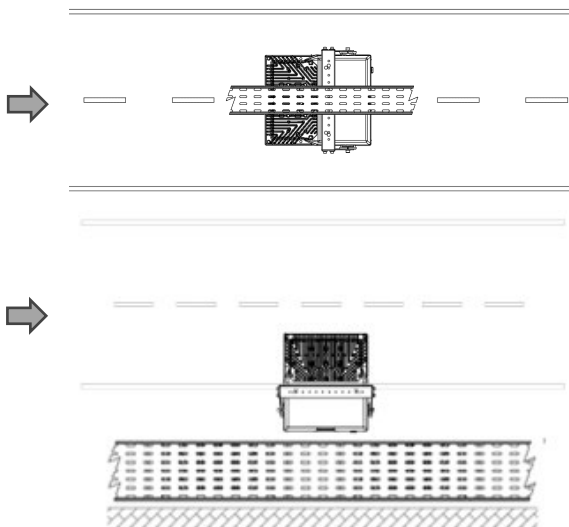
Quick Release Bracket (Option)



Accessory Weight: 1.8 kg

The bracket is supplied unmounted in the unit.

EXAMPLES OF APPLICATION



Assembly

Central channel, Offset channel.
Luminaire in axis with the channel.

Optics used

AS-xx

Assembly

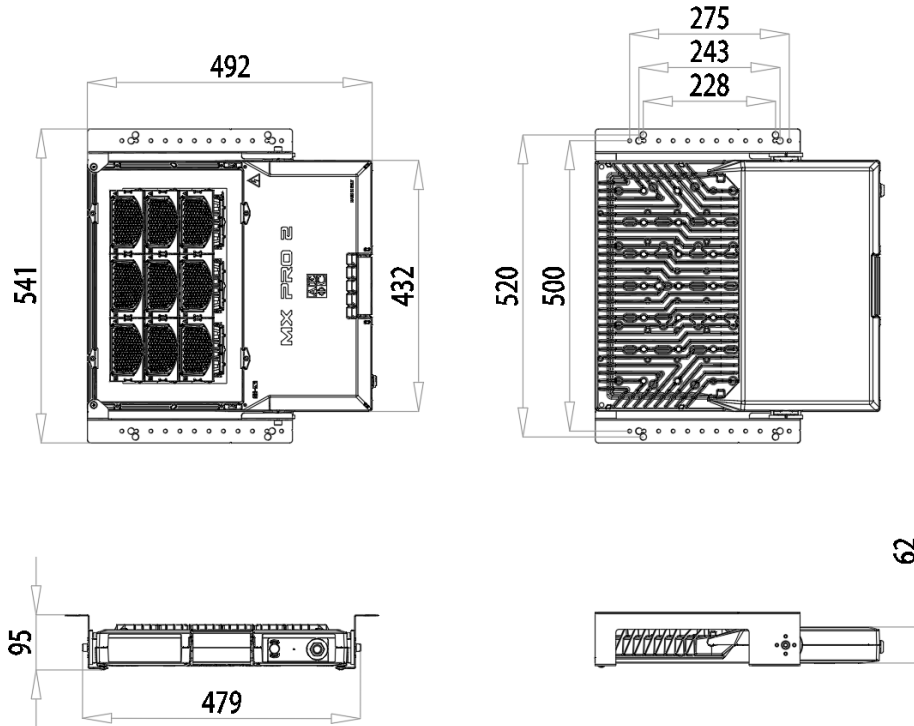
Lateral ceiling mounting.
Luminaire rotated 90°.

Optics used

STx-x

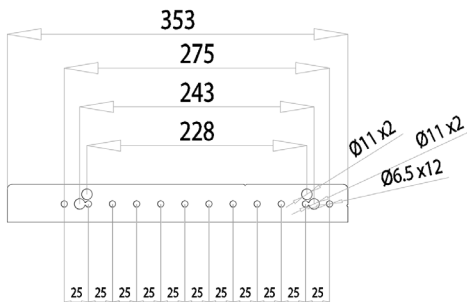


BRACKET C
DIMENSIONAL DRAWING



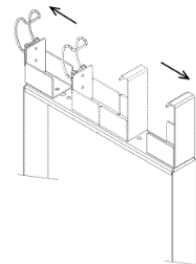
DETAIL OF FIXING BRACKETS

Integrated Bracket



Weight Bracket: 0.9 kg

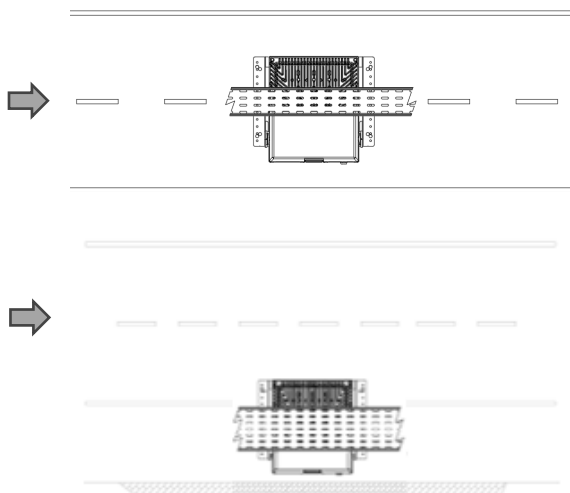
Quick Release Bracket (Option)



Accessory Weight: 1.8 kg

The bracket is supplied unmounted in the unit.

EXAMPLES OF APPLICATION



Assembly

Central channel, Offset channel.
Luminaire rotated 90°.

Optics used

TS-xx

Assembly

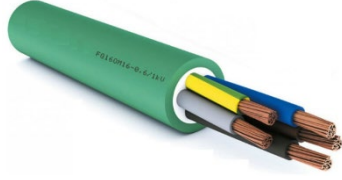
Lateral channel mounting.
Luminaire rotated by 90°.

Optics used


STx-x




EXTERNAL CABLE DETAILS

ELECTRICAL CHARACTERISTICS		SAMPLE PICTURE
Type	FG16-OM16	
Rated voltage U0/U	0,6/1kV	
Operating temperature range	Up to 90°C	
Sheath Colour	Green	
Smoke Emission	LS0H (Low-Smoke Zero Halogen)	
CPR classification	C _{ca} -s1b, d1, a1	
Outer diameter	2P 12mm – 5P 14,4mm	

FIREPROOF EXTERNAL CABLE DETAILS (Option)

ELECTRICAL CHARACTERISTICS		SAMPLE PICTURE
Type	FTG18-OM16	
Rated voltage U0/U	0,6/1kV	
Operating temperature range	Up to 90°C	
Sheath Colour	Blue	
Smoke Emission	LS0H (Low-Smoke Zero Halogen)	
CPR classification	B2 _{ca} -s1a, d1, a1	
Outer diameter	2P 12mm – 5P 14,8mm	

MAINS PLUG 2P+T DETAILS (Option)

ELECTRICAL CHARACTERISTICS		SAMPLE PICTURE
Type	IEC309 2P+T 230V 16A	
Typology	Straight Plug	
Materials	External body: Technopolymers (Halogen Free) Pins: Nickel-plated brass	
Poles	2P+T	
Tightening capacity of the cable fastener clamp	7.5 - 13.8mm	
Tightening capacity of the terminals	1-4mm ²	
Operating temperature	-25°C / +55°C	
Rated current	16A	
Protection degree	IP67	
Colour	Blue	
Dimension	130mm x Ø72mm	

Note: for version only F, ZHAGA, DALI WITH SEPARATE CABLES (ONLY ON NETWORK CABLE)

LUMINAIRE	OPTIC	LED CURRENT (mA)	RATED LUMINAIRE FLUX* (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER* (Tq=25°C, Vin=230Vac, F/DA/DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX* (Tj=85°C, 4000K, lm)	RATED LED POWER* (Tj=85°C, W)	
MX PRO 2 TUNNEL 5P5 7040.140-7M	STE-M STU-M STW SV	140	27170	177	153	29047	159	
MX PRO 2 TUNNEL 5P5 7040.140-8M			30810	200	154	33197	181	
MX PRO 2 TUNNEL 5P5 7040.140-9M			34660	225	154	37346	204	
MX PRO 2 TUNNEL 5P5 7040.180-5M		180	180	24430	164	148	26133	148
MX PRO 2 TUNNEL 5P5 7040.180-6M				29120	197	147	31359	177
MX PRO 2 TUNNEL 5P5 7040.180-7M				33630	231	145	36586	207
MX PRO 2 TUNNEL 5P5 7040.180-8M				38060	263	144	41812	236
MX PRO 2 TUNNEL 5P5 7040.180-9M				42810	296	144	47039	266
MX PRO 2 TUNNEL 5P5 7040.140-7M				S05 S07 STA STE-S STU-S	140	26560	177	150
MX PRO 2 TUNNEL 5P5 7040.140-8M	30130	200	150			33197	181	
MX PRO 2 TUNNEL 5P5 7040.140-9M	33900	225	150			37346	204	
MX PRO 2 TUNNEL 5P5 7040.180-5M	180	180	23890		164	145	26133	148
MX PRO 2 TUNNEL 5P5 7040.180-6M			28480		197	144	31359	177
MX PRO 2 TUNNEL 5P5 7040.180-7M			32880		231	142	36586	207
MX PRO 2 TUNNEL 5P5 7040.180-8M			37210		263	141	41812	236
MX PRO 2 TUNNEL 5P5 7040.180-9M			41870		296	141	47039	266
MX PRO 2 TUNNEL 5P5 7040.100-7M			AS-45M AS-45N AS-45W		140	26560	177	150
MX PRO 2 TUNNEL 5P5 7040.100-8M	30130	200		150		24184	128	
MX PRO 2 TUNNEL 5P5 7040.100-9M	33900	225		150		27207	144	
MX PRO 2 TUNNEL 5P5 7040.140-5M	180	180		23890	164	145	20748	113
MX PRO 2 TUNNEL 5P5 7040.140-6M				28480	197	144	24897	136
MX PRO 2 TUNNEL 5P5 7040.140-7M				32880	231	142	29047	159
MX PRO 2 TUNNEL 5P5 7040.140-8M				37210	263	141	33197	181
MX PRO 2 TUNNEL 5P5 7040.140-9M				41870	296	141	37346	204
MX PRO 2 TUNNEL 5P5 7040.140-7M				AS-55M AS-55N AS-55W	140	26260	177	148
MX PRO 2 TUNNEL 5P5 7040.140-8M	29790	200	148			33197	181	
MX PRO 2 TUNNEL 5P5 7040.140-9M	33510	225	148			37346	204	
MX PRO 2 TUNNEL 5P5 7040.180-5M	180	180	23620		164	144	26133	148
MX PRO 2 TUNNEL 5P5 7040.180-6M			28150		197	142	31359	177
MX PRO 2 TUNNEL 5P5 7040.180-7M			32500		231	140	36586	207
MX PRO 2 TUNNEL 5P5 7040.180-8M			36790		263	139	41812	236
MX PRO 2 TUNNEL 5P5 7040.180-9M			41390		296	139	47039	266

LUMINAIRE	OPTIC	LED CURRENT (mA)	RATED LUMINAIRE FLUX* (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER* (Tq=25°C, Vin=230Vac, F/DA/DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX* (Tj=85°C, 4000K, lm)	RATED LED POWER* (Tj=85°C, W)	
MX PRO 2 TUNNEL 5P5 7040.140-7M	AS-65M AS-65N AS-65W	140	25350	177	143	29047	159	
MX PRO 2 TUNNEL 5P5 7040.140-8M			28760	200	143	33197	181	
MX PRO 2 TUNNEL 5P5 7040.140-9M			32360	225	143	37346	204	
MX PRO 2 TUNNEL 5P5 7040.180-5M		AS-65M AS-65N AS-65W	180	22810	164	139	26133	148
MX PRO 2 TUNNEL 5P5 7040.180-6M				27190	197	138	31359	177
MX PRO 2 TUNNEL 5P5 7040.180-7M				31380	231	135	36586	207
MX PRO 2 TUNNEL 5P5 7040.180-8M				35520	263	135	41812	236
MX PRO 2 TUNNEL 5P5 7040.180-9M				39970	296	135	47039	266
MX PRO 2 TUNNEL 5P5 7040.140-8M				TS-05 TS-07	140	30130	200	150
MX PRO 2 TUNNEL 5P5 7040.180-6M	TS-A	180	28480	197	144	31359	177	
MX PRO 2 TUNNEL 5P5 7040.180-8M	TS-ES TS-US		37210	263	141	41812	236	
MX PRO 2 TUNNEL 5P5 7040.140-8M	TS-EM		140	30810	200	154	33197	181
MX PRO 2 TUNNEL 5P5 7040.180-6M	TS-UM TS-V	180	29120	197	147	31359	177	
MX PRO 2 TUNNEL 5P5 7040.180-8M	TS-W		38060	263	144	41812	236	

*RATED LUMINAIRE FLUX / RATED LUMINAIRE POWER: Rated data obtained in laboratory.

*RATED LED FLUX / RATED LED POWER: Rated data extrapolated from LED manufacturer datasheet.

Values indicated in this technical sheet are to be considered rated values. Flux tolerance: $\pm 7\%$. Power tolerance: $\pm 7\%$.

Power tolerance with ZHAGA version or power supply D4i/SR: $\pm 10\%$.

Operating temperature for 7/8/9M versions at 180mA: $-40^{\circ}\text{C}/+35^{\circ}\text{C}$.

The characteristics of the product listed above are subjected to change without notice.