

Tunnel catalogue 2016

# SOLUTIONS FOR ROADWAY, RAILWAY AND UNDERGROUNDS







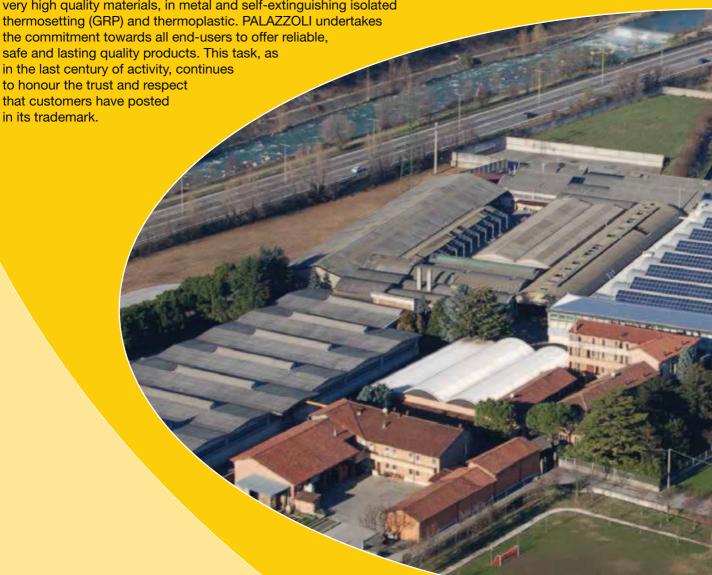








In 1904 PALAZZOLI began its activity in Brescia when electrical energy was first used in the industry. The Company is specialized in manufacturing electrical appliances with safety features that are protected and watertight, for industrial, marine, civil, agricultural and OEM applications. The offer of PALAZZOLI extends into a wide range of finished products, to which special customized solutions are specifically developed in accordance to the needs of end-users. The products conform to technical and safety standards and are manufactured with very high quality materials, in metal and self-extinguishing isolated



RESISTANCE, LONG LIFE AND RELIABILITY FOR SUSTAINABLE PRODUCT DEVELOPMENT AND APPLICATION

# LEADING EXPERIENCE AND KNOW-HOW IN ELECTROTECHNOLOGY



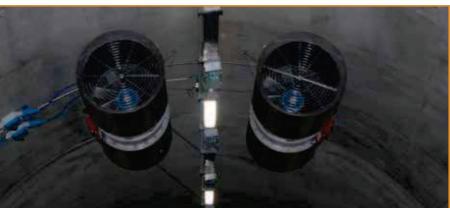
# SUPPORT FOR THE INSTALLATION

All the Palazzoli systems are studied to reduce the installation time guaranteeing a high and continuous standard of performance. In the website www.palazzoli.com you can find installation advices, references and videos.



# Solutions for roadway, railway and undergrounds







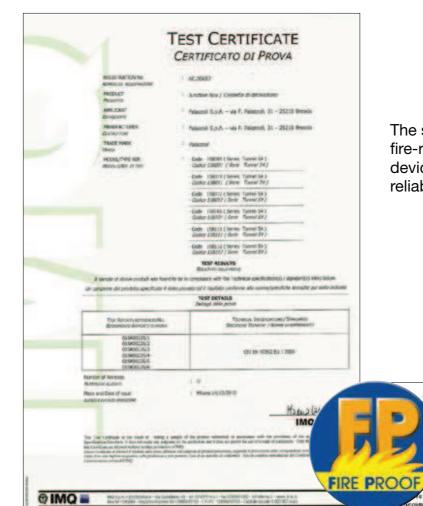








# Certified quality



The system TUNNEL 54 is made from fire-resistant, flame-retardant and rodent-proof devices certified from Laboratories reliable at international level (IMQ, INTEK).

The system TUNNEL 54 is made of FIRE PROOF certified aluminum alloy. This certification guarantees the resistance at test performed at 400°C for 120' (in compliance with the guidelines for the design of Safety in roadway tunnels - ANAS/2009) and at 850°C for 90' (EN50200)

ESAME DEL RAPPORTO DI PROVA RP 04-0177 Rev. 01 e eseguice: Accordo specifica Cliente: Verifica funzionamento ai dati nominali di targa in condizioni eccezionali con temperatura ambiente di 400°C per la durata minima di 2 ore codot:

Codoc 151880 Presa stagna a poli allineati 3P+T tipo FP con interrattore di blocco in contenttore modulare in lega d'alliaminto IP 66 Caratteresiche eleuriche a 400°C ln = 65M Un = 690V 50/60Hz.

Codoc 151881 Presa stagna a poli allineati 3P+T tipo FP con interrattore di blocco in contentiore modulare in lega d'alliminto IP 66 Caratteresiche eleuriche a 400°C ln = 15M Un = 690V 50/66Hz.

Codoc 151890 Spina stagna a poli allineati 3P+T tipo FP con corpo in lega d'alliaminto Caratteresiche eleuriche a 400°C ln = 63M Un = 690V 50/66Hz.

Codoc 151891 Spina stagna a poli allineati 3P+T tipo FP con corpo in lega d'alliaminto Caratterestiche eleuriche a 400°C ln = 125M Un = 690V 50/60Hz. Costruttore: Palazzoli S.p.A. - Via F. Palazzoli, 31 - 25188 BRESCIA Esito della prova L'Ato della preva

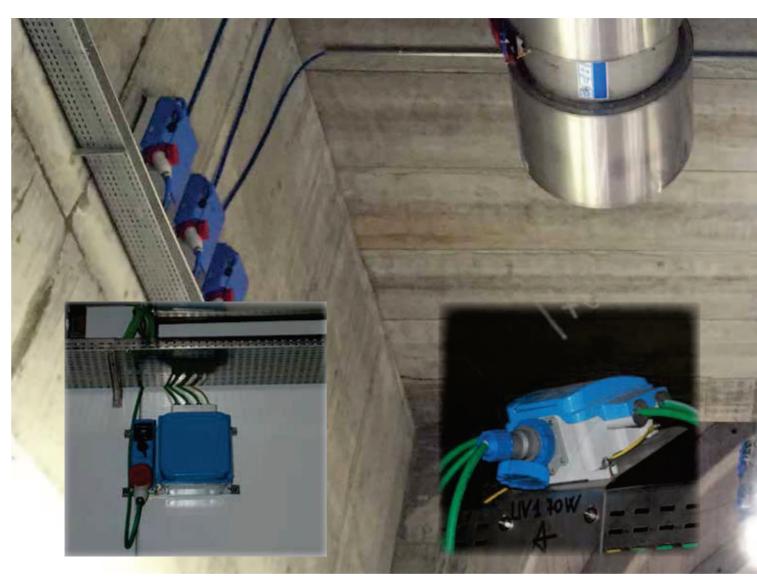
L'Insieme della preva con interruttore di bisco con inserita la relativa spina, alimentato alle
condizioni nominali di funzionamento con carico trifase 690V 63 - 125A 50Hz, ha
regolarmente funzionato sonza riscontrare anomalie nella gestione del carico, per 2 ore alla
temperatura ambiente di 190°C

Detagli della prova sono riponati nel ne Bapporto di Prova RP 94-9177 del 2094-94 80 Chente Palazzoli S.p.A. Laboratorio di Prova Intek SpA Via F. Palazzoli, 31 25 188 BRESCIA tel 030 20 15 1 fax 030 20 15 217 via Mazzini, 75 25086 Rezzato (BS) Tel. (+39.30) 25.91.857 Fax. (+39.30) 25.94.351 2005.06.07 Tecnico di Laboratorio Enrico Veronesi Verificato da: Anna Baruzzi. Responsabile del laboratorio: Enrico Veronesi Mod. MD-09-01-04

ALPI

# Tunnel systems

TUNNEL54 series is composed of products that comply with safety requirements inside roadway and railway tunnels. The whole system is in compliance with the Standards internationally in force and what is required inside "Guidelines for road tunnel safety design",





written by ANAS, the Italian company delegated to the construction and maintenance of national motorways and state highways. This document was released as transposition of the European Directive 2004/54/EC.

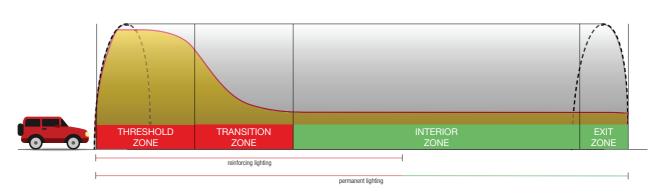




# Lighting plants - fixtures

PERMANENT							
OPTIC APPLIC	CATION	PHOTOMETRIC CURVE	ОРТІС	FLUX (lm)	CODE		
		Garria Anglias 150° 120°		4160	154304		
Symmetrical optic in the direction of travel and on the transverse plane		100 100 100 100 100 100 100 100	75 79	SYMMETRICAL	6240	154306	
	1 1		STIVIIVIETRICAL	8320	154308		
				12480	154312		
		Garra Jopha 157 007		4160	154404		
Symmetrical optic in the direction of travel	Symmetrical optic the direction of travel		20° ACYMMETRICAL	6240	154406		
and asymmetrical on the transverse plane		67	20° ASYMMETRICAL	8320	154408		
		207 15° 0° 15° 200		12480	154412		

### GUIDE TO SELECT THE FIXTURES - LUMINANCE LEVELS



THE PERMANENT LIGHTING is uniformly distributed from the access zone to the exit zones.

THE REINFORCING LIGHTING is installed in the access and threshold zone.

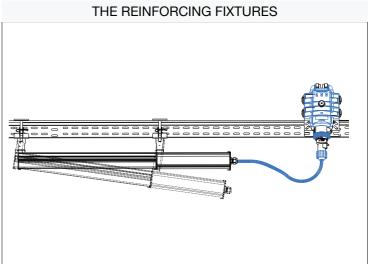
In the access zone, the reinforcing lighting must keep the same luminance level of the environment out of the tunnel, so as that the driver can recognize an obstacle placed on the route.

In the threshold zone, the luminance levels must be lower than those of the access zone, so as that the driver can adapt to the lower levels of the interior zone.

# Guide to product selection

### REINFORCEMENT **FLUX** PHOTOMETRIC CURVE **OPTIC** CODE **OPTIC APPLICATION** (lm) Counter-beam optic in the direction of travel **COUNTER-BEAM** and symmetrical on the transverse plane SYMMETRICAL Counter-beam optic in the direction of travel and asymmetrical 20° ASYMMETRICAL on the transverse plane

# THE PERMANENT FIXTURES

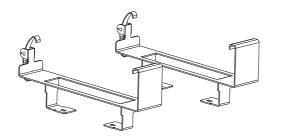


### **LED LIGHTING FIXTURES** FOR PERMANENT LIGHTING



### Solutions for Mounting

### Supports for quick mounting



### Advantages

### **HIGH EFFICIENCY**

State-of-the-art LEDs and lenses designed to optimize the luminous flux distribution on road surfaces grant technical and economical advantages to the TUNNEL-LED range for the energy management of the plants.

### **FLEXIBILITY**

Thanks to the complete range of accessories for mounting on the tray and on the wall, TUNNEL-LED is equipped with brackets in stainless steel that adapt to all the heights of the trays.

### **EXCELLENT PERFORMANCE**

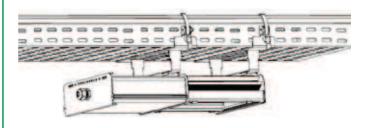
Specifically combining LEDs and optical lenses, TUNNEL-LED offers a wide range of technical solutions. The fixture is designed to optimally adapt to any kind of shape the tunnel has. This guarantees the luminance and uniformity required by the Standards in force.

### Approvals



European mark showing the conformity 03 of Palazzoli products to European Safety Standards.

Tray quick mounting





# LED LIGHTING FIXTURES FOR PERMANENT LIGHTING

### Description of the materials

### **ENCLOSURE:**

Extruded in black anodized aluminum alloy, with superior fins to maximize the thermal dissipation; heads made in stainless steel AISI 304 with silicone gaskets. Extra clear glass tempered with 4mm thickness; fixed to the body by means of metallic supports.

### SUPPORT FOR SUSPENSION/SUSPENSIONS FOR TRAY (dimensions to be defined):

Bended system for suspension made of profiled in stainless steel AISI 304, complete with a lever device for quick hooking/unhooking with safety clip to prevent accidental opening. The supports are attached to the fixtures without tools thanks to the guided quick system.

### **LUMINOUS MOTOR:**

Multichip LED of main manufacturers (Lumileds/CREE), with colour temperature of 5000K, mounted on electronic board made in MCPCB Bergquist, minimum copper thickness 70um. Photometric distribution made with single lenses located on every single multichip. Power supply with current from 350 to 1050mA. Sample test on 10% of the boards with X-ray vision to check the correct welding operation of LEDs. Fixing to the enclosure through screws dimensioned to guarantee the flatness and the consequent correct heat transmission.

### GASKETS:

Made of expanded non-ageing black silicone suitable to compensate the expansions caused by the operation, guaranteeing the declared IP rating.

### WIRING CABLES INSIDE THE DEVICE:

For the driver/board connection rigid single core cables 1x0,75mm<sup>2</sup> in double insulation.

### CABLE CONNECTING THE DEVICE TO THE ELECTRICAL LINE

The device is supplied with multi core cables FTG10(O)M1 2x1,5mm², length out of the cable gland is 1,5m, the cable is equipped with a 16A 2P+E-IP67 plug.

### **POWER SUPPLY HOOKING:**

Included in the cable gland IP68, suitable for Ø 10÷14mm cables.

### **ELECTRICAL WIRING:**

The power supply system includes an electronic driver suitable for the power absorbed by the LED system in any configuration. The driver used is made by a main manufacturer and complies with the legislations of electrical safety. It is equipped with protection against overvoltage at the entry of the power supply. The output current is 700mA. Possibility to adjust the current through 1-10V entry.

### **MANAGEMENT SYSTEM:**

The lighting fixture contains a system of remote PLC or radio wave transmission to be decided at the definition of the order.

### **INSTALLATION:**

The Tunnel54 lighting fixtures must be installed directly on the cable trays by means of a system of support for quick mounting (see the specific document).

### WAY OF JUNCTION FROM THE POWER SUPPLY LINE:

The device is designed for installation in normal plants of the national grid to satisfy the safety requirement prescribed by legislations. The junction is done with a 2x1,5mm<sup>2</sup> cable and the relative 16A 2P+E-IP67 plug.

### **BURN-IN TEST:**

On 100% of fixtures.

### **RESISTANCE TO CORROSION:**

Resistance to salt spray test atmosphere as per ISO Standard 9227 (1000 hours).

### **LED LIGHTING FIXTURES** FOR PERMANENT LIGHTING

LED lighting fixture for permanent lighting of tunnels in conformity to IEC EN 60598-1 Standards. The bearing structure is made of extruded aluminum with a shape with very low exposition to wind, compartment for components out of the LED box, joined with flanges with easy access, lateral closing made of stainless steel AISI 304. System of heat dissipation by means of fins with radiant surface to guarantee the maximum duration and performance of LEDs.

The closing glass is extra-clear and tempered. The sealing gasket is made of silicone rubber with closed ring. The fixture is installed by means of supports made of stainless steel AISI 304 with system for quick mounting on the tray. The LED module is made of multichip power led with colour temperature 5000°K, CRI 70 and with 700mA driving current. Luminous flux diffusion with optic made with high-performance precision lenses. The connection to the line is with multicore cable FG7(O)M1 type with 1,5m length and 2P+E 16A 230V IEC EN 60309-1 and IEC EN 60309-2 plug. Insulation class II. Cos φ > 0,9. The product lifetime warranty (with AT=25°C) is 80.000hr L80B10 (IESNA LM-80-80). The protection rating of the system is IP66 as per IEC EN 60529, and the mechanical resistance to impacts is IK09 as per IEC EN 50102 Standard. Operating temperature from -25°C to +45°C.

### Technical datasheet

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	IEC EN 60598-1+AMD11:2009, IEC EN 60598-2-3+A1:2011 IEC EN 62471, IEC EN 62471, IEC EN 62384, IEC EN 62031, IEC EN 60950-1;			
Conformity to Standards	2004/108/EC - 2006/95/EC 2011/65/EU (RoHS) - 2012/19/EU 2006/95/EC (low voltage) 2004/108/EC (electromagnetic compatibility) 2005/327EC (EUP)			
	ENEC*			
Body material	Black anodized extruded aluminium alloy			
Diffuser material	Tempered glass			
Optic material	Non-ageing UV resistant polycarbonate			
Support material	Stainless steel AlSI304			
Protection rating (IP as per IEC/EN 60529)	IP66			
Resistance to impacts (IK rating as per IEC/EN 62262)	IK09			
Insulation class	IIO			
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (1000 hours)			
Connection to the network	FG7(O)M1 / FTG10(O)M1 cable L.1,5m			
Power plug	16A 2P+E IP66 IEC EN 60309-1; IEC EN 60309-2			
Mains voltage	230V 50Hz			
Overvoltage protection	4 kV EN 61000			

Power factor	Cos φ > 0,9
Max total surface	0,02m <sup>2</sup>
Lateral exposed surface	0,045m²
Electrical accessories compartment	Inside the device in the lateral part
Mounting system	Supports made of stainless steel AISI 304 for quick mounting on cable trays with curved edge. Upon customer requirement.
Max weight with cable and plug	6,50 Kg
Installation height	5-8 meters
lm/Watt LED	135
Reference AT	25°C
LED device efficiency	from 97 to 106 lm/W (at 25°C – according to the optic)
Colour temperature	5000K (others upon request)
CRI	> 70
Junction temperature	< 85°C
Driving current	700mA
Estimated device lifetime	≥80.000 hours in normal operating conditions (TM21 – L70)
Optic type Ulor max	Optimized for roadway tunnel plants
Operating temperature	-20°C ÷ +40°C

### NOTES:

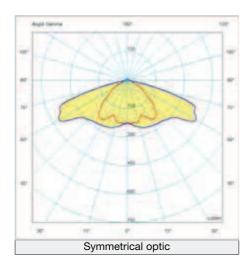
Identification plate: present on every single device, as per IEC-EN 60598-1.

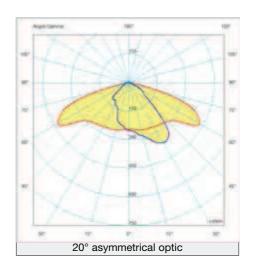
Maintenance: the driver and remote management system are replaced through the access to the auxiliary compartment, separated by the optical compartment.

<sup>\*</sup>In progress for approval.

# LED LIGHTING FIXTURES FOR PERMANENT LIGHTING

### Photometric curves



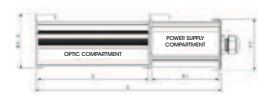


### Codes and dimensions

* Lighting fixture with symmetrical transverse optic	□154304	□154306	□154308 □154312
* Lighting fixture with 20° asymmetrical transverse optic	□154404	□154406	□154408 □154412 □154418 □154424
	<u></u> 154430	□154436	□154442 □154448 □154454
Pair of supports to the tray	□151910	□151911	□151912 □151913 □151914 □151915

<sup>\*</sup> In order to have the PLC with Reverberi, you need to add the suffix RE to the code (ex. 154606RE), with Umpi add UM (ex.154606UM).





				Non – dimmered			Reve			
Code	No. Led	Rated flux (lm)	Power (W)	A1	o	L	A1	o	L	Weight Kg
154304-154404	4	4160	34	100	165	278	180	165	358	4,8
154306-154406	6	6240	51	200	171	384	200	171	384	5,4
154308-154408	8	8320	68	200	250	463	200	250	463	6,0
154312-154412	12	12480	103	270	251	534	270	251	534	6,5

# LED LIGHTING FIXTURES FOR REINFORCING LIGHTING



### Advantages

### **HIGH EFFICIENCY**

State-of-the-art LEDs and lenses designed to optimize the luminous flux distribution on road surfaces grant technical and economical advantages to the TUNNEL-LED range for the energy management of the plants.

### **FLEXIBILITY**

Thanks to the complete range of accessories for mounting on the tray and on the wall, TUNNEL-LED is equipped with brackets in stainless steel that adapt to all the heights of the trays.

### **EXCELLENT PERFORMANCE**

Specifically combining LEDs and optical lenses, TUNNEL-LED offers a wide range of technical solutions. The fixture is designed to optimally adapt to any kind of shape the tunnel has. This guarantees the luminance and uniformity required by the Standards in force.

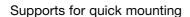
### **Approvals**

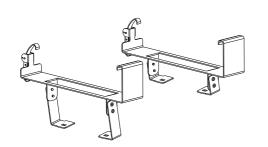




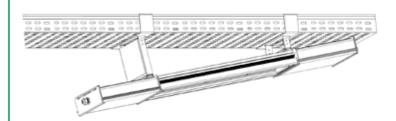
European mark showing the conformity 03 of Palazzoli products to European Safety Standards.

Solutions for Mounting





### Tray quick mounting



# LED LIGHTING FIXTURES FOR REINFORCING LIGHTING

### Description of the materials

### **ENCLOSURE:**

Extruded in black anodized aluminum alloy, with superior fins to maximize the thermal dissipation; heads made in stainless steel AISI 304 with silicone gaskets. Extra clear glass tempered with 4mm thickness; fixed to the body by means of metallic supports.

### SUPPORT FOR SUSPENSION/SUSPENSIONS FOR TRAY (dimensions to be defined):

Bended system for suspension made of profiled in stainless steel AISI 304, complete with a lever device for quick hooking/unhooking with safety clip to prevent accidental opening. The supports are attached to the fixtures without tools thanks to the guided quick system.

### **LUMINOUS MOTOR:**

Multichip LED of main manufacturers (Lumileds/CREE), with colour temperature of 5000K, mounted on electronic board made in MCPCB Bergquist, minimum copper thickness 70 um. Photometric distribution made with single lenses located on every single multichip. Power supply with current from 350 to 1050mA. Sample test on 10% of the boards with X-ray vision to check the correct welding operation of LEDs. Fixing to the enclosure through screws dimensioned to guarantee the flatness and the consequent correct heat transmission.

### GASKETS:

Made of expanded non-ageing black silicone suitable to compensate the expansions caused by the operation, guaranteeing the declared IP rating.

### WIRING CABLES INSIDE THE DEVICE:

For the driver/board connection rigid single core cables 1x0,75mm<sup>2</sup> in double insulation.

### CABLE CONNECTING THE DEVICE TO THE ELECTRICAL LINE

The device is supplied with multi core cables  $FTG10(O)M1\ 2x1,5mm^2$ , length out of the cable gland is 1,5m, the cable is equipped with a 16A 2P+E - IP67 plug.

### **POWER SUPPLY HOOKING:**

Included in the cable gland IP68, suitable for Ø 10÷14mm cables.

### **ELECTRICAL WIRING:**

The power supply system includes an electronic driver suitable for the power absorbed by the LED system in any configuration. The driver used is made by a main manufacturer and complies with the legislations of electrical safety. It is equipped with protection against overvoltage at the entry of the power supply. The output current is 700 mA. Possibility to adjust the current through 1-10V entry.

### **MANAGEMENT SYSTEM:**

The lighting fixture contains a system of remote PLC or radio wave transmission to be decided at the definition of the order.

### **INSTALLATION:**

The Tunnel54 lighting fixtures must be installed directly on the cable trays by means of a system of support for quick mounting (see the specific document).

### WAY OF JUNCTION FROM THE POWER SUPPLY LINE:

The device is designed for installation in normal plants of the national grid to satisfy the safety requirement prescribed by legislations. The junction is done with a 2x1,5mm<sup>2</sup> cable and the relative 16A 2P+E-IP67 plug.

### **BURN-IN TEST:**

On 100% of fixtures.

### **RESISTANCE TO CORROSION:**

Resistance to salt spray test atmosphere as per ISO Standard 9227 (1000 hours).

### **LED LIGHTING FIXTURES** FOR REINFORCING LIGHTING

LED lighting fixture for reinforcing lighting of tunnels in conformity to IEC EN 60598-1 Standards. The bearing structure is made of extruded aluminum with a shape with very low exposition to wind, compartment for components out of the LED compartment, joined with flanges with easy access, lateral closing made of stainless steel AISI 304. System of heat dissipation by means of fins with radiant surface to guarantee the maximum duration and performance of LEDs.

The closing glass is extra-clear and tempered. The sealing gasket is made of silicone rubber with closed ring.

The fixture is installed by means of supports made of stainless steel AISI 304 with system for quick mounting on the tray. The LED module is made of multichip power led with colour temperature 5000°K, CRI 70 and with 700mA driving current. Luminous flux diffusion with optic made with high-performance precision lenses. The connection to the line is with multicore cable FG7(O)M1 type with 1,5m length and 2P+E 16A 230V IEC EN 60309-1 and IEC EN 60309-2 plug. Insulation class II. Cos φ > 0,9. The product lifetime warranty (with AT=25°C) is 80.000hr L80B10 (IESNA LM-80-80). The protection rating of the system is IP66 as per IEC EN 60529, and the mechanical resistance to impacts is IK09 as per IEC EN 50102 Standard. Operating temperature from -25°C to +45°C.

### Technical datasheet

	IEC EN 60598-1+AMD11:2009, IEC EN 60598-2-3+A1:2011 IEC EN 62471, IEC EN 62471, IEC EN 62384, IEC EN 62031, IEC EN 60950-1;
Conformity to Standards	2004/108/EC - 2006/95/EC 2011/65/EU (RoHS) - 2012/19/EU 2006/95/EC (low voltage) 2004/108/EC (electromagnetic compatibility) 2005/327EC (EUP)
	ENEC*
Body material	Black anodized extruded aluminium alloy
Diffuser material	Tempered glass
Optic material	Non-ageing UV resistant polycarbonate
Support material	Stainless steel AISI 304
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK09
Insulation class	II◎
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (1000 hours)
Connection to the network	FG7(O)M1 / FTG10(O)M1 cable L.1,5m
Power plug	16A 2P+E IP66 IEC EN 60309-1; IEC EN 60309-2
Mains voltage	230V 50Hz
Overvoltage protection	4 kV EN 61000

Power factor	Cos φ > 0,9
Max total surfacee	0,10m <sup>2</sup>
Lateral exposed surface	0,056m²
Electrical accessories compartment	Inside the device in the lateral part
Mounting system	Supports made of stainless steel AISI 304 for quick mounting on cable trays with curved edge. Upon customer requirement.
Max weight of the device with wiring	16,50 Kg (maximum power wiring)
Installation height	5-8 meters
Im/Watt LED	135
Reference AT	25°C
LED device efficiency	106 lm/W (at 25°C – according to the optic)
Colour temperature	5000K (others upon request)
CRI	> 70
Junction temperature	< 85°C
Driving current	700mA
Estimated device lifetime	≥80.000 hours in normal operating conditions (TM21 – L70);
Optic type Ulor max	Optimized for roadway tunnel plants
Operating temperature	-20°C ÷ +40°C

### NOTES:

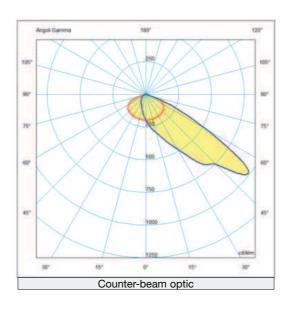
Identification plate: present on every single device, as per IEC-EN 60598-1.

Maintenance: the driver and remote management system are replaced through the access to the auxiliary compartment, separated by the optical compartment.

<sup>\*</sup>In progress for approval.

### **LED LIGHTING FIXTURES** FOR REINFORCING LIGHTING

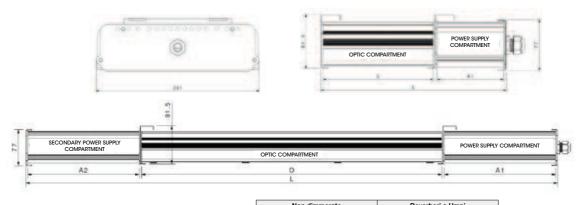
### Photometric curves



### Codes and dimensions

* Lighting fixture with counter-beam symmetric	□154606	□154612	□154618 □154624 □154630	<u></u> 154636
optic on the transverse plane	□154642	<u> </u>	□154654	
* Lighting fixture with 20° asymmetrical transverse optic	□154406	□154412	□154418 □154424 □154430	<u>154436</u>
	<u>154442</u>	<u></u> 154448	□154454	
Pair of adjustable supports to tray	□151920	□151921	□151922 □151923 □151924	<u></u> 151925

<sup>\*</sup> In order to have the PLC with Reverberi, you need to add the suffix RE to the code (ex. 154606RE), with Umpi add UM (ex.154606UM).



				Non dimmerato			Reverberi o Umpi					
Code	No. Led	Rated flux (lm)	Power (W)	A1	A2	o	L	A1	A2	o	L	Weight Kg
154406-154606	6	6240	51	200	-	171	384	200	-	171	384	5,4
154412-154612	12	12480	103	270	-	251	534	270	-	251	534	6,5
154418-154618	18	18720	154	270	-	330	613	270	-	330	613	7,0
154424-154624	24	24960	205	270	-	410	693	300	-	410	723	11,3
154430-154630	30	31200	257	270	-	489	772	300	-	489	802	12,0
154436-165636	36	37440	308	270	-	569	852	300	-	569	1122	13,0
154442-154642	42	43680	359	270	270	648	1201	270	270	648	1201	15,5
154448-154648	48	49920	410	270	270	728	1281	270	270	728	1281	16,0
154454-164654	54	56160	462	270	270	807	1360	270	270	807	1360	16,5

### **LED LIGHTING FIXTURES IN STAINLESS STEEL AISI 304** FOR AUXILIARY LIGHTING



### Advantages

### NO WELDED JOINTS

The body is cold-drawn in a single piece to guarantee the corrosion resistance of the material.

### **EFFICIENT**

The ultra-bright aluminium reflector ensures optimum efficacy of the luminous flux and therefore an extremely uniform distribution.

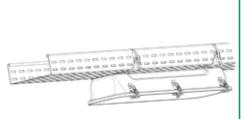
### SAFE

The pre-mounted hooks in stainless steel AISI 304 guarantee the correct closing of the diffuser.



Solutions for Mounting

Quick mounting on tray







# LED LIGHTING FIXTURES IN STAINLESS STEEL AISI 304 FOR AUXILIARY LIGHTING

LED lighting fixture with body cold-drawn in a single piece and made of stainless steel AISI 304. The components are fixed to the body with a mechanical "tox-clinching" without welding to guarantee the maximum resistance to oxidation. The diffuser is in tempered glass and the sealing gasket is closed-ring type. The hooks for fixing the diffuser are made of

The diffuser is in tempered glass and the sealing gasket is closed-ring type. The hooks for fixing the diffuser are made of stainless steel AISI 304 and are already pre-mounted on the body. The power supply is electronic type. The cable glands in nickeled brass have an IP68 protection rating with radial closing of the cable. The IP rating of the lighting fixture is IP66 as per IEC EN 60529, the mechanical resistance is IK09 rated as per EN 50102 Standard. It can be supplied completed with supports for quickly mounting it to the tray and/or with cable and plug.

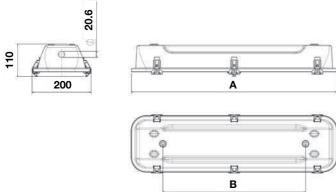
### Technical datasheet

Conformity to Standards	IEC EN 60598-1; IEC EN 60598-2-1 IEC 34-23					
Material	Stainless steel AISI 304 (body) Tempered glass (diffuser)					
Protection rating (IP as per IEC/EN 60529)	IP66					
Resistance to impacts (IK rating as per IEC/EN 62262)	IK09					
Insulation class	IIO					

Weight	4,25Kg (code 822142) 7,25Kg (code 822242) 7,50Kg (code 822342)
Resistance to temperature	Operating: -25°C ÷ + 50°C Storage: -40°C ÷ + 70°C
Rated voltage	230V AC/DC
Frequency	50-60 Hz
Device lifetime	L80 B20 @50.000h Ta=25°C

### Codes dimensions and photometric curves

Lighting fixture with symmetrical reflector	□ 822142	□ 822242	□ 822342
Mounting accessories in stainless steel	□ 820004	□ 820005	□ 820000



	30° 15° 0° 15° 30° Wide beam
B B	45°
TE E	60"
A	75'
	90.

Palazzoli code	Rated flux (lm)	A (mm)	B (mm)
822142	3170	690	480
822242	5900	1300	1090
822342	8000	1600	1395

### FLUORESCENT LIGHTING FIXTURES IN STAINLESS STEEL AISI304 FOR AUXILIARY LIGHTING



### Advantages

### NO WELDED JOINTS

The body is cold-drawn in a single piece to guarantee the corrosion resistance of the material.

### **EFFICIENT**

The ultra-bright aluminium reflector ensures optimum efficacy of the luminous flux and therefore an extremely uniform distribution.

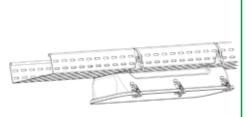
### SAFE

The pre-mounted hooks in stainless steel AISI304 guarantee the correct closing of the diffuser.



Solutions for Mounting

Quick mounting on tray







### FLUORESCENT LIGHTING FIXTURES IN STAINLESS STEEL AISI304 FOR AUXILIARY LIGHTING

Fluorescent lighting fixture with body cold-drawn in a single piece and made of stainless steel AISI 304. The components are fixed to the body with a mechanical "tox-clinching" without welding to guarantee the maximum resistance to oxidation. The diffuser is in tempered glass and the sealing gasket is closed-ring type. The hooks for closing the diffuser are made of stainless steel AISI304 and are already pre-mounted on the body. The power supply is electronic type.

The cable glands in nickeled brass have an IP68 protection rating with radial closing if the cable. The IP rating of the lighting fixture is IP66 as per IEC EN 60529, the mechanical resistance is IK09 rated as per EN 50102 Standard. It can be supplied completed with supports for quickly mounting it to the tray and/or with cable and plug.

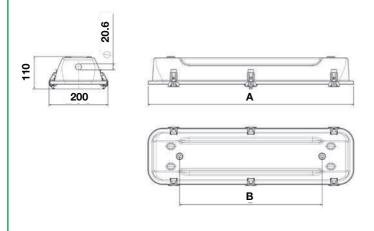
### Technical datasheet

Conformity to Standards	IEC EN 60598-1; IEC EN 60598-2-1 IEC 34-23
Material	Stainless steel AISI 304 (body) Tempered glass (diffuser)
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK09
Insulation class	II 🔘

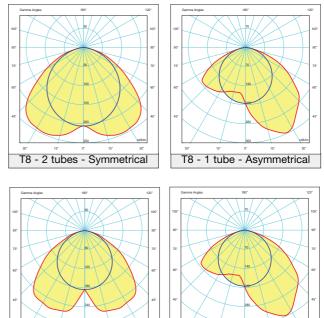
Weight	4,25Kg (2x18W) 7,25Kg (2x36W) 7,50Kg (2x54W)
Resistance to temperature	Operating: -25°C ÷ + 50°C Storage: -40°C ÷ + 70°C
Rated voltage	230V AC/DC
Frequency	50-60 Hz
Protection type	Glass fuse 5x20 4A 250V

### Codes dimensions and photometric curves

Lighting fixture with symmetrical reflector	□ 152132	□ 152232	□ 152962
Lighting fixture with asymmetrical reflector	□ 153132	□ 153232	□ 153962
Mounting accessories in stainless steel	□ 820004	□ 820005	□ 820000



Palazzoli code	Lamp type (W)	Lampholder and lamps	A (mm)	B (mm)
152132-153132	2x18	G13 T8	690	480
152232-153232	2x36	G13 T8	1300	1090
152962-153962	2x54	G5 T5	1300	1090



T5 - 2 tubes - Symmetrical

Tables for selection at page 52

T5 - 1 tube - Asymmetrical

# Lighting plants - junctions

### JUNCTION WITH INSULATION PERFORATION

CIRCUITS	JUNCTION	CABLE SECTION (mm²)	CABLE DIAMETER (mm)	CLASS	PROTECTION	вох	CODE			
ORDINARY REINFORCING		2P+E-1EU309-2   4-16   6.70-11	6,70-11	II	Without fuses	9	158201			
FOR SINGLE CORE CABLE	230V SOCKET	4-10	0,70-11	"	With fuses		158211			
					1 fuse		157011			
	1 CABLE GLAND			, i	2 fuses		157111			
	M20 (7-13mm)			II	1 fuse		158011			
ORDINARY EMERGENCY			6,70-15,80	"	2 fuses		158111			
FOR SINGLE CORE CABLE		2 CABLE GLAN- DS M20 (7-13mm)		I	1 fuse		157012			
	CABLE GLAN-				2 fuses		157112			
				, ,	II	1 fuse		158012		
							"	2 fuses		158112
	ARY ENCY 2P+E- IEC309-2						1 fuse		157001	
ORDINARY EMERGENCY FOR SINGLE CORE CABLE					2 fuses		157101			
	230V SOCKET					II	1 fuse		158001	
			"	2 fuses		158101				

# Guide to product selection

### **JUNCTION WITH TERMINAL BLOCKS**

CIRCUITS	JUNCTION	TERMINAL BLOCK	CABLE SECTION (mm²)	CABLE DIAMETER (mm)	CLASS	PROTECTION	вох	CODE
ORDINARY		10	4-9,5			- 07/	SL461304	
REINFORCING FOR SINGLE	REINFORCING 2P+E-	2	16	7-13	I 1 fuse	69	SL461305	
CORE CABLE IN ALUMINIUM	IEC309-2 230V SOCKET		25-35-50	11-21	, I	1 fuse		SL461306
ARG7M1			70-95	11-21				SL461307
			4-6	4-9,5				151011
	1 CABLE	2	10-16	7-13			9	151022
	GLAND M25 (8-16mm)	2	25-35	8-16				151034
ORDINARY EMERGENCY			50-70	11-21	ı	1 fuse		151045
FOR SINGLE CORE CABLE			4-6	4-9,5	, I	riuse		151311
	2P+E - IEC309-2	2	10-16	7-13			60	151322
	230V SOCKET		25-35	8-16			<u></u>	151334
			50-70	11-21				151345
		1 CABLE GLAND M25 (8-16mm)	4-6	11-21				151241
			10	11-21				151242
	CABLE		16	15-27				151252
			40	15-27				151264
			50-70	22-35				151275
ORDINARY EMERGENCY			70	35-48	ı	1 fuse		151285
FOR MULTI CORE CABLE			4-6	11-21	<b> </b>	Tiuse		151441
			10	11-21				151442
	2P+E-	4	16	15-27			(4)	151452
	IEC309-2 230V SOCKET	4	40	15-27				151464
			50-70	22-35				151475
			70	35-48				151485

### JUNCTION BOXES IN TECHNOPOLYMER WITH INSULATION PERFORATION FOR SINGLE CORE CABLES





### Advantages

### SIMULTANEOUS WIRING

The connection and the watertight closing is done with a single operation.

### **GUARANTEED CONNECTION**

The calibrated breaking screw guarantees the correct connection without using dedicated tools.

### UNIVERSAL CABLE ENTRY

The box is equipped with a patented system that can accept all the single core cables with a section from 4 to 16 mm<sup>2</sup>.

### **EASY MAINTENANCE**

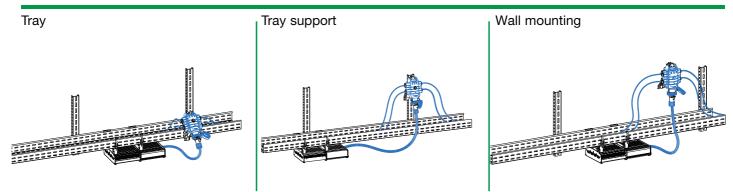
In the version equipped with the protection fuse, the fuse is accessible from the external.

### **Patents**



The three-blade system, patented by Palazzoli, pierces the cable longitudinally, avoiding cutting and section reduction that can cause drops in the network.

Solutions for Mounting



### JUNCTION BOXES IN TECHNOPOLYMER WITH INSULATION PERFORATION FOR SINGLE CORE CABLES

Junction box in self-extinguishing halogen free reinforced technopolymer with insulation perforation that allows the take-up of electricity without breaking the line. With just one screw it is possible to wire both the phase and neutral at once. The same screw guarantees also the watertight closing of the enclosure with IP66 protection rating as per IEC EN 60529. The head of the screws with calibrated breaking falls off automatically when the connection is done, guaranteeing the correct closing. The insulation of the cable is perforated by three blades longitudinally so as to guarantee that the single strands are not cut. The IP66 protection rating of the box is guaranteed by the closing system that accepts in one single seat cable with sections from 4 to 16mm<sup>2</sup> without changing the sealing gaskets. The box can be directly installed on the tray, on the wall, or on the tray

support without accessories. Versions without protection or with protection ceramic fuse 5x20, accessible from the external only with proper tool.

The junction is done with a pre-wired industrial socket, 2P+E 16A 230V as per IEC EN 60309-1 and IEC EN 60309-2 Standards. Dimensions: 163mm x 240mm x 135mm. Weight: 1,3kg.

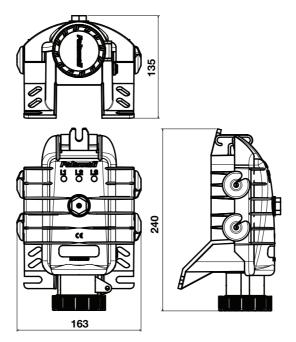
### Technical datasheet

Conformity to Standards	CEI EN 60309-1 CEI EN 60309-2
Material of the enclosure	Halogen Free reinforced technopolymer
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK08
Resistance to abnormal heat and fire ("Glow Wire" as per IEC EN 60695-2-10)	960°C
120 211 00093-2-10)	

	-
Self-extinguishing grade	V0 (UL94)
Insulation class	IIO
Weight	1,3Kg
Rated current Rated voltage Frequency Socket type	16A 230V 50-60Hz 2P+E 6h
Entry - cable type	Single core
Socket cable entry from 4 to 16mm² (external ø 6,7mm –11mm)	From 4 to 16mm <sup>2</sup> (external Ø 6,7mm – 11mm)
Protection type	Ceramic fuse 5x20 4A 250V

### Codes and dimensions

Junction box without protection	□ 158201
Junction box with fuse protection	□ 158211
Mobile plug	□ 710126



# JUNCTION BOX IN ALUMINIUM ALLOY FOR SINGLE CORE CABLES IN ALUMINIUM ALLOY



### Advantages

### **EASY INSTALLATION**

The cable glands in brass are fixed on the box through threaded holes allowing the operator to fix them directly from the external.

### **VERSATILE WIRING**

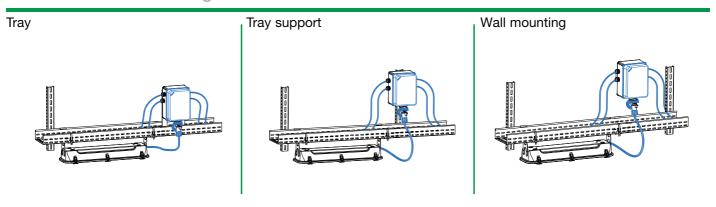
The terminal block in ceramic allows the passage of cables in aluminium with section up to 70 mm<sup>2</sup>.

### UNBREAKABLE

The high thickness of the box wall is minimum 3,5 mm and guarantees a resistance to impacts IK10.



Solutions for Mounting



# JUNCTION BOX IN ALUMINIUM ALLOY FOR SINGLE CORE CABLES IN ALUMINIUM ALLOY

Box in aluminium alloy EN 1706 AC-4610DF for single core cables, suitable for ordinary and reinforcing lighting. The terminal block is made with composable terminals in technopolymer suitable or the connection of cable in aluminium. The cable glands in nickeled brass with radial closing have IP68 protection rating and are fixed on threaded holes without the locking nut.

The minimum thickness of the walls is 3,5mm. The earth connection is ensured by a screw terminal M6 type both internal and external. The IP66 protection rating as per IEC EN 60529 Standard, and the mechanical resistance to impacts is IK10 as per IEC EN 50102 Standard.

The protection of the phase is made with a fuseholder base made of ceramic with fuses E14-D01 type. The fuseholder base is wired to the junction. The junction is done with a prewired socket 2P+E 16A 230V as per IEC EN 60309-1 and IEC EN 60309-2 Standard.

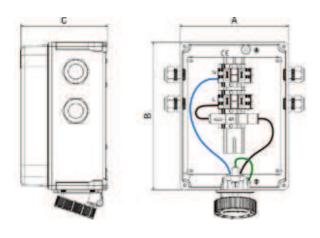
### Technical datasheet

Conformity to Standards	IEC EN 60309-1 IEC EN 60309-2/EN 50362 ANAS/2009: Guidelines for road tunnel safety design
Body material	Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10
Insulation class	I

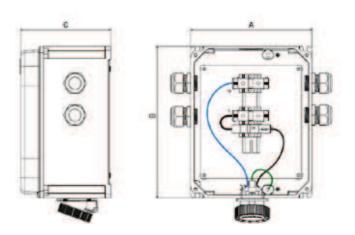
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)
Painting	Hot polymerized non-toxic polyester
Rated current Rated voltage Frequency Socket type	16A 230V 50-60Hz 2P+E 6h
Entry – cable type	Single core
Cable section entry	Up to 70mm² (external Ø 21mm max)
Protection type	Fuse 4A (10.3x38)

### Codes and dimensions

Box with socket $\square$ SL461304 $\square$ SL461305 $\square$ SL461306 $\square$ SL461307
---



Code	Terminal block	Dimensions (mm)					
	(mm²)	A	В	С	Cable glands P1	Closing (mm) P1	
SL461304	2x10	185	252	152	M16	4-9,5	
SL461305	2x16	185	252	152	M20	7-13	
SL461306	2x50	185	252	152	M32	11-21	



Code	Terminal block	Dime	ensions				
	(mm²)	А	В	С	Cable glands P1	Closing (mm) P1	
SL461307	2x95	252	315	193	M32	11-21	

### **JUNCTION BOX IN ALUMINIUM ALLOY** WITH INSULATION PERFORATION FOR SINGLE CORE CABLES



### Solutions for Mounting

### Advantages

### **GUARANTEED CONNECTION**

The calibrated breaking screw guarantees the correct connection without using dedicated tools.

### **EASY MAINTENANCE**

In the version equipped with the protection fuse, the fuse is accessible from the external.

### **UNBREAKABLE**

The high thickness of the box wall is minimum 3,5mm and guarantees a resistance to impacts IK10.

### Approvals

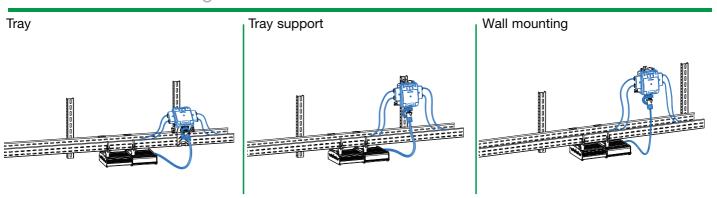


The FIRE PROOF approval guarantees the service continuity at 850°C for 90 minutes, and is certified by internationally accredited laboratories.

### **Patents**



- 1) The box is equipped with a patented system that can accept all the single core cables with section from 4 to 35mm<sup>2</sup>.
  - 2) The three-blade system, patented by Palazzoli, pierces the cable longitudinally, avoiding cutting and section reduction that can cause drops on the network.



# JUNCTION BOX IN ALUMINIUM ALLOY WITH INSULATION PERFORATION FOR SINGLE CORE CABLES

Junction box with insulation perforation made of aluminium alloy, with anticorrosion treatment and atoxic powder coating internal and external, that allows the take-up of electricity without breaking the line. The resistance to fire guarantees the service continuity at 850°C for 90 minutes as per IEC EN 50362 (Fire Proof approval). The insulation perforation terminal, made of brass on ceramic base, allows the simulateous wiring of phase and neutral, the head of the screw with calibrated breaking falls off automatically when the connection is done, guaranteeing the correct closing. The insulation of the cable is perforated by three blades longitudinally so as to guarantee that the single strands are not cut. The box can accept single core cables from 4 to 35 mm2 without changing the sealing gaskets, guaranteeing the watertight protection when the lid is closed (IP66 protection rating as per IEC EN 60529) with a minimum thickness of the walls of 3,5mm.

The mechanical resistance is IK10 rated in conformity to IEC EN50102.

Fuses are substituted with the lid closed and through a dedicated lid made of aluminium alloy hinged to the box. The lid is equipped with a captive screw that can be opened only with proper tool.

The junction is done with a pre-wired industrial socket, 2P+E 16A 230V as per IEC EN 60309-1 and IEC EN 60309-2 Standards or with cable glands. Dimensions: 231mm x 254mm x 125mm. Weight: 3kg.

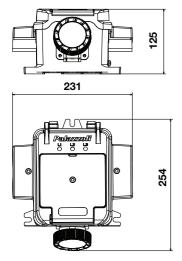
### Technical datasheet

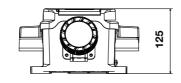
Conformity to Standards	IEC EN 60309-1 IEC EN 60309-2/EN 50362				
	ANAS/2009: Guidelines for road tunnel safety design				
Body material	Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)				
Protection rating (IP as per IEC/EN 60529)	IP66				
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10				
Resistance to abnormal heat and fire	850°C for 90 minutes as per EN 50362 Standards (FIRE PROOF approval)				

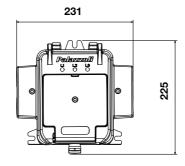
Insulation class	I and II©
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)
Weight	3Kg
Painting	Hot polymerized non-toxic polyester
Rated current Rated voltage Frequency Socket type	16A 230V 50-60Hz 2P+E 6h
Entry - cable type	Single core
Socket cable entry	From 4 to 35mm <sup>2</sup> (external Ø 6,7mm - 15,8mm)
Protection type	Fuse 4A (D01-E14)

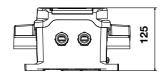
### Codes and dimensions

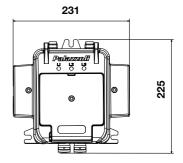
Box 1 cable gland	□ 157011	□ 157111	□ 158011	□ 158111
Box 2 cable glands	□ 157012	□ 157112	□ 158012	□ 158112
Box with socket	□ 157001	□ 157101	□ 158001	□ 158101
Kit for installation	□ 157050	□ 157051		
Mobile plug	□ 710126			











Tables for selection at page 47

# JUNCTION BOX IN ALUMINIUM ALLOY FOR SINGLE CORE CABLES



### Advantages

### **EASY INSTALLATION**

The cable glands in brass are fixed on the box by means of threaded holes allowing the operator to fix them directly from the external.

### VERSATILE WIRING

The terminal block in ceramic allows the passage of cables in aluminium with section up to 70mm<sup>2</sup>.

### **UNBREAKABLE**

The high thickness of the box wall is minmum 3,5mm and guarantees a resistance to impacts IK10.

### **Approvals**

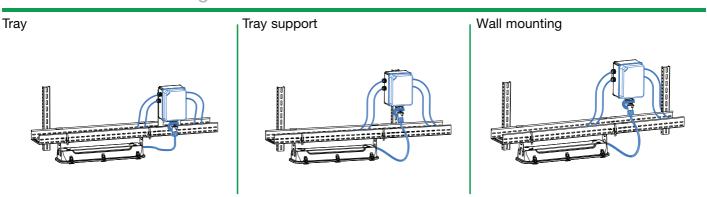




The FIRE PROOF approval guarantees the service continuity at 850°C for 90 minutes, and is certified by internationally accredited laboratories.



Solutions for Mounting



# JUNCTION BOX IN ALUMINIUM ALLOY FOR SINGLE CORE CABLES

Junction box in aluminium alloy EN 1706 AC-4610DF for single core cables, suitable for ordinary and emergency lighting. The fire resistance guarantees the service continuity at 850°C for 90 minutes as per IEC EN 50362 Standard. The terminal blocks is made with conductive bars in brass and antiloosening terminals with two screws on a ceramic base. The cable glands in nickeled brass with radial closing have an IP68 protection rating fixed on threaded holes without the locknut. The minimum thickness of the walls is 3,5 mm. The earth connection is ensured by a screw terminal M6 type both internal and external. The protection rating is IP66 as per IEC EN 60529 Standard and the mechanical resistance to impacts is IK10 as per IEC EN 50102 Standard. The protection of the phase is made with a fuseholder base made of ceramic with fuses E14-D01 type. The fuseholder base is wired to the junction. The junction is done with a prewired socket 2P+E 16A 230V as per IEC EN 60309-1 and IEC EN 60309-2 Standard or with cable gland.

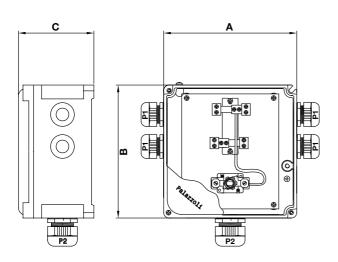
### Technical datasheet

IEC EN 60309-1 IEC EN 60309-2/EN 50362			
ANAS/2009: Guidelines for road tunnel safety design			
Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)			
IP66			
IK10			

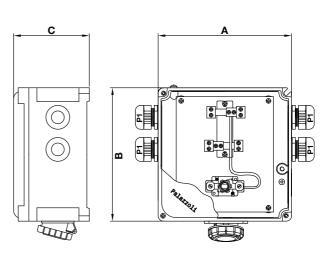
Resistance to abnormal heat and fire	850°C for 90 minutes as per EN 50362 Standards (FIRE PROOF approval)
Insulation class	1
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)
Painting	Hot polymerized non-toxic polyester
Rated current Rated voltage Frequency Socket type	16A 230V 50-60Hz 2P+E 6h
Entry – cable type	Single core
Cable section entry	Up to 70mm <sup>2</sup> (external Ø 21mm max)
Protection type	Fuse 4A (D01-E14)

### Codes and dimensions

Box with cable gland	□ 151011	□ 151022	□ 151034	□ 151045	
Box with socket	□ 151311	□ 151322	□ 151334	□ 151345	
Kit for installation	□ 151901	□ 151902	□ 151903		
Mobile plug	□ 710126				



Code	Terminal block	Dimensions (mm)			Cable	glands	Closin	g (mm)
	(mm²)	Α	В	С	P1	P2	P1	P2
151011	2x6	185	185	105	M16	M25	4,5-10	10-17
151022	2x16	185	185	105	M20	M25	7-13	10-17
151034	2x40	185	252	152	M25	M25	10-17	10-17
151045	2x70	185	315	193	M32	M25	11-21	10-17



Code	Terminal block	Dimensions (mm)			Cable glands	Closing (mm)
	(mm²)	Α	В	С	P1	P1
151311	2x6	185	185	105	M16	4,5-10
151322	2x16	185	185	105	M20	7-13
151334	2x40	185	252	152	M25	10-17
151345	2x70	185	315	193	M32	11-21

# JUNCTION BOX IN ALUMINIUM ALLOY FOR MULTI CORE CABLES



# Advantages

### **EASY INSTALLATION**

The cable glands in brass are fixed on the box by means of threaded holes allowing the operator to fix them directly from the external.

### VERSATILE WIRING

The terminal block in ceramic allows the passage of cables in aluminium with section up to 70mm<sup>2</sup>.

### **UNBREAKABLE**

The high thickness of the box wall is minmum 3,5mm and guarantees a resistance to impacts IK10.

### **Approvals**

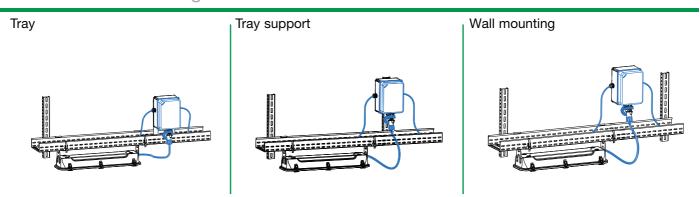




The FIRE PROOF approval guarantees the service continuity at 850°C for 90 minutes, and is certified by internationally accredited laboratories.



Solutions for Mounting



# JUNCTION BOX IN ALUMINIUM ALLOY FOR MULTI CORE CABLES

Junction box in aluminium alloy EN 1706 AC-4610DF for single core cables, suitable for ordinary and emergency lighting. The fire resistance guarantees the service continuity at 850°C for 90 minutes as per IEC EN 50362 Standard. The terminal blocks is made with conductive bars in brass and antiloosening terminals with two screws on a ceramic base. The cable glands in nickeled brass with radial closing have an IP68 protection rating fixed on threaded holes without the locknut. The minimum thickness of the walls is 3,5mm. The earth connection is ensured by a screw terminal M6 type both internal and external. The protection rating is IP66 as per IEC EN 60529 Standard and the mechanical resistance to impacts is IK10 as per IEC EN 50102 Standard. The protection of the phase is made with a fuseholder base made of ceramic with fuses E14-D01 type. The fuseholder base is wired to the junction. The junction is done with a prewired socket 2P+E 16A 230V as per IEC EN 60309-1 and IEC EN 60309-2 Standard.

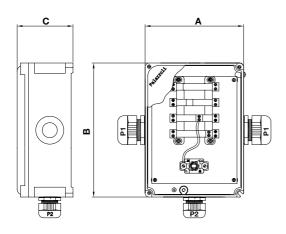
### Technical datasheet

IEC EN 60309-1 IEC EN 60309-2/EN 50362
ANAS/2009: Guidelines for road tunnel safety design
Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)
IP66
IK10

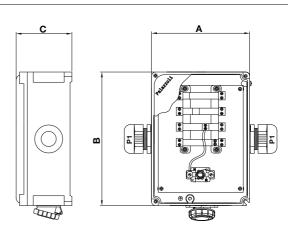
Resistance to abnormal heat and fire	850°C for 90 minutes as per EN 50362 Standards (FIRE PROOF approval)
Insulation class	I
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)
Painting	Hot polymerized non-toxic polyester
Rated current Rated voltage Frequency Socket type	16A 230V 50-60Hz 2P+E 6h
Entry – cable type	Multi core
Cable section entry	Up to 70mm <sup>2</sup> (external Ø 21mm max)
Protection type	Fuse 4A (D01-E14)

### Codes and dimensions

Box with cable gland	□ 151241 □ 151242 □ 151252 □ 151264 □ 151275 □	151285
Box with socket	□ 151441 □ 151442 □ 151452 □ 151464 □ 151475 □	151485
Kit for installation	□ 151901 □ 151902 □ 151903	
Mobile plug	710126	



Code	Terminal block	Dime	ensions (	(mm)	Cable	glands	Closin	g (mm)
	(mm²)	Α	В	С	P1	P2	P1	P2
151241	4x6	185	252	152	M32	M25	11-21	10-17
151242	4x16	185	252	152	M32	M25	11-21	10-17
151252	4x16	185	252	152	M40	M25	19-28	10-17
151264	4x40	185	252	152	M40	M25	19-28	10-17
151275	4x70	252	315	193	M50	M25	26-35	10-17
151285	4x70	252	315	193	M63	M25	34-45	10-17



Code	Terminal block	Dimensions (mm)		Cable glands	Closing (mm)	
	(mm²)	Α	В	С	P1	P1
151441	4x6	185	252	152	M32	11-21
151442	4x16	185	252	152	M32	11-21
151452	4x16	185	252	152	M40	19-28
151464	4x40	185	252	152	M40	19-28
151475	4x70	252	315	193	M50	26-35
151485	4x70	252	315	193	M63	34-45

# LINE JUNCTION BOXES FOR MULTI CORE CABLES



### Advantages

### **EASY INSTALLATION**

The cable glands in brass are fixed on the box by means of threaded holes allowing the operator to fix them directly from the external.

### VERSATILE WIRING

The terminal block in ceramic allows the passage of cables in aluminium with section up to 70mm<sup>2</sup>.

### **UNBREAKABLE**

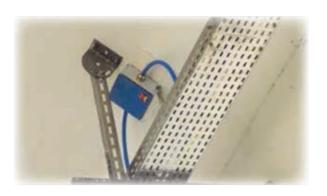
The high thickness of the box wall is minimum 3,5mm and guarantees a resistance to impacts IK10.

### **Approvals**

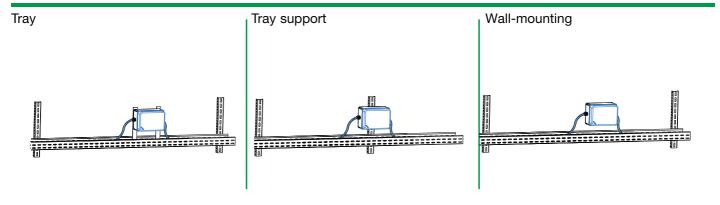


the service continuity at 850°C for 90 minutes, and is certified by internationally accredited laboratories.

The FIRE PROOF approval guarantees



## Solutions for Mounting



# LINE JUNCTION BOXES FOR MULTI CORE CABLES

Junction box in aluminium alloy EN 1706 AC-4610DF for single core cables, suitable for ordinary and emergency lighting. The fire resistance guarantees the service continuity at 850°C for 90 minutes as per IEC EN 50362 Standard. The terminal blocks is made with conductive bars in brass and antiloosening terminals with two screws on a ceramic base. The cable glands in nickeled brass with radial closing have an IP68 protection rating fixed on threaded holes without the locknut.

The minimum thickness of the walls is 3,5mm. The earth connection is ensured by a screw terminal M6 type both internal and external. The protection rating is IP66 as per IEC EN 60529 Standard and the mechanical resistance to impacts is IK10 as per IEC EN 50102 Standard.

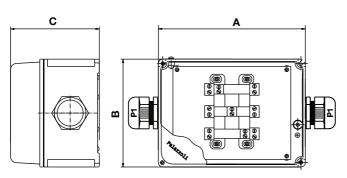
### Technical datasheet

Conformity to	IEC EN 60309-1 IEC EN 60309-2/EN 50362
Standards	ANAS/2009: Guidelines for road tunnel safety design
Body material	Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10

Resistance to abnormal heat and fire	850°C for 90 minutes as per EN 50362 Standards (FIRE PROOF approval)
Insulation class	I
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)
Painting	Hot polymerized non-toxic polyester
Entry – cable type	Multi core
Cable section entry	Up to 70mm <sup>2</sup> (external Ø 48mm max)

### Codes and dimensions

Box for electroventilators	□ 151553	□ 151564	□ 151575	□ 151585		
Box for lighting fixtures	□ 151641	□ 151642	□ 151652	□ 151664	□ 151675	□ 151685
Kit for installation	□ 151901	□ 151902	□ 151903			



Code	Terminal block	Dime	ensions	(mm)	Cable glands	Closing (mm)
	(mm²)	Α	В	С	P1	P1
151553	3x25	185	185	105	M40	19-28
151564	3x40	252	185	152	M40	19-28
151575	3x70	252	185	152	M50	26-35
151585	3x70	252	185	152	M63	34-45

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Code	Terminal block	Dimensions (mm)		Cable glands	Closing (mm)	
	(mm²)	Α	В	С	P1	P1
151641	4x6	252	185	152	M32	11-21
151642	4x16	252	185	152	M32	11-21
151652	4x16	252	185	152	M40	19-28
151664	4x40	252	185	152	M40	19-28
151675	4x70	315	252	193	M50	26-35
151685	4x70	315	252	193	M63	34-45

# Ventilation plants

### 380-415V

MAX POWER VENTILATOR		SECTION OF THE CABLE	ADAPTO	OR .	SOCKET/PLUG
31KW (63A)		up to 35mm² (Ø 16mm max)	無額額	not necessary	151611 with auxiliary contact
	SINGLE CORE	50 - 70mm² (Ø 11-21mm)		151533	
	SINGLE CORE	95 - 120mm² (Ø 15-27mm)		151534	
		150 - 185mm² (Ø 15-27mm)		151535	151613
		up to 3x25mm <sup>2</sup> (Ø 27mm max)		not necessary	with auxiliary contact
	MULTI CORE	up to 3x50mm² (Ø 22-35mm)		151531	
8		up to 3x70mm² (Ø 35-48mm)	-	151532	
44KW (63A)		up to 35mm² (Ø 8-16mm)		151940	
	SINGLE CORE	50 - 70mm² (Ø 11-21mm)		151941	
		95 - 185mm² (Ø 15-27mm)		151942	
	MULTI CORE	up to 3x10mm² (Ø 11-21mm)	*	151930	151880 151890 plug
		up to 3x25mm² (Ø 15-27mm)		151931	
		up to 3x50mm² (Ø 22-35mm)		151932	
25		up to 3x70mm² (Ø 35-48mm)		151933	
75KW (125A)		up to 35mm² (Ø 8-16mm)		151940	
9	SINGLE CORE	50 - 70mm² (Ø 11-21mm)	3	151941	
		95 - 185mm² (Ø 15-27mm)		151942	
		up to 3x10mm² (Ø 11-21mm)		151930	151881 151891 plug
	MULTICODE	up to 3x25mm² (Ø 15-27mm)	1	151931	
	MULTI CORE	up to 3x50mm² (Ø 22-35mm)	0.0	151932	
2		up to3x70mm² (Ø 35-48mm)		151933	

# Guide to product selection

# 600-690V

MAX POWER VENTILATOR	LINE/S (DIAMETER)	SECTION OF THE CABLE	ADAPT	OR	SOCKET/PLUG
47KW (63A)		up to 35mm² (Ø 16mm max)	無無難	not necessary	151612 with auxiliary contact
	SINGLE CORE	50 - 70mm² (Ø 11-21mm)		151533	
	SINGLE CONE	95 - 120mm² (Ø 15-27mm)	#	151534	
		150 - 185mm² (Ø 15-27mm)		151535	151614
		up to 3x25mm <sup>2</sup> (Ø 27mm max)	E .	not necessary	with auxiliary contact
	MULTI CORE	up to 3x50mm² (Ø 22-35mm)		151531	
2.0		up to 3x70mm² (Ø 35-48mm)	- 5	151532	
65KW (63A)		up to 35mm² (Ø 8-16mm)		151940	
9	SINGLE CORE	50 - 70mm² (Ø 11-21mm)	3	151941	151880 151890 plug
		95 - 185mm² (Ø 15-27mm)		151942	
		up to 3x10mm² (Ø 11-21mm)		151930	
		up to 3x25mm² (Ø 15-27mm)		151931	
	MULTI CORE	up to 3x50mm² (Ø 22-35mm)		151932	
235		up to 3x70mm² (Ø 35-48mm)		151933	
117KW (125A)		up to 35mm² (Ø 8-16mm)	P	151940	
0	SINGLE CORE	50 - 70mm² (Ø 11-21mm)	3	151941	
		95 - 185mm² (Ø 15-27mm)		151942	
		up to 3x10mm² (Ø 11-21mm)		151930	151881 151891 plug
	AMULTI CORE	up to 3x25mm² (Ø 15-27mm)	151931	151931	
	MULTI CORE	up to 3x50mm² (Ø 22-35mm)		151932	
25		up to 3x70mm² (Ø 35-48mm)		151933	

### **SOCKETS FOR VENTILATORS UP TO 47KW**





# Advantages

#### REDUCED WEIGHT

It is light, compact and suitable to be installed in any place.

#### **HIGH SAFETY**

Being equipped with a safety isolator switch with mechanical interlock in steel and with a handle in aluminium that can be padlocked, It allows the compliance with the Machinery Directive.

#### **RESISTANCE TO HIDROJETS**

It allows the resistance to powerful water jets used for washing the tunnels, thanks to the IP66 protection rating.

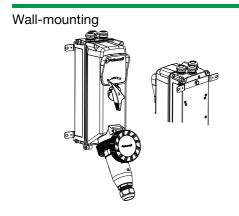
# **Approvals**

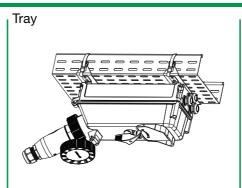


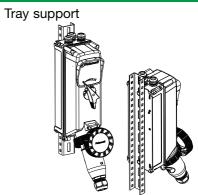


The FIRE PROOF approval guarantees the service continuity at 400°C for 120 minutes, and is certified by internationally accredited laboratories.

Solutions for Mounting









#### **SOCKETS FOR VENTILATORS UP TO 47KW**

Switched interlocked socket with plug for power supply system for tunnel ventilators. The system is made of aluminium alloy and designed to guarantee the service continuity at 400°C for 120 minutes as per IEC EN 12101-3 and 2004/54/EC.

The socket is equipped with an isolator switch with AC23A-AC3 category with contacts in silver alloy and contact-holder discs in high-thickness reinforced thermosetting that guarantees the dimensional stability and resistance to temperature change due to temporary overloads. The connection terminals are with bolt M12 type and the external connection is ensured by a screw terminal M6 type out of the socket enclosure. The opening and closing of the lid is guaranteed by captive screws made of stainless steel. The handle of the isolator switch is made of aluminium and can be padlocked. The socket cable entry allows the connection of single or multi core FTG10(O)M1-type cables up to the section of 35mm², and with additional box, up to 185mm². The plug is industrial type, in conformity to IEC EN 60309-1 and IEC EN 60309-2, with cable entry through cable gland in nickeled brass with radial closing, dimensioned to accept three core FTG10(O)M1-type cables up to the section of 25mm². The system can be mounted on the wall, on tray or on the tray support with the proper kit. The protection rating of the system is IP66 as per IEC EN 60529 Standard, and the mechanical resistance is IK10 as per IEC EN 5012 Standard.

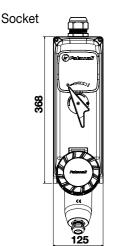
## Technical datasheet

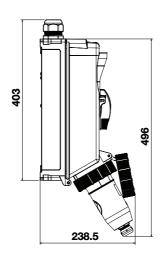
r common datasmoot		
Conformity to Standards	2004/54/EC ANAS/2009: Guidelines for road tunnel safety design IEC EN 60309-1, IEC EN 60309-2, IEC EN 12101-3	
Body material	Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)	
Protection rating (IP as per IEC/EN 60529)	IP66	
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10	
Resistance to fire	400°C for 120 minutes (FIRE PROOF)	

Insulation class	1
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)
Weight	6Kg socket and plug
Painting	Hot polymerized non-toxic polyester
Rated current Rated voltage Frequency Socket type Auxiliary contact	63A 400V - 690V 50-60Hz 3P+E 1NO
Isolator switch category	AC23A - AC3 600-690V 47kW AC23A - AC3 380-415V 31kW
Socket cable entry	Single core up to 35mm <sup>2</sup> (external Ø 16mm max) Multi core up to 35mm <sup>2</sup> (external Ø 27mm max)
Plug cable entry	Multi core up to 35mm² (external Ø 27mm max)

# Codes and dimensions

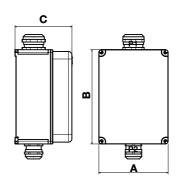
Switched interlocked sockets with plug and auxiliary contact	□ 151611	□ 151612	□ 151613	□ 151614	
Reducers	□ 151531	□ 151532	□ 151533	□ 151534	□ 151535
Kit for installation in stainless steel	□ 151541	□ 151542	□ 151543	□ 151544	





Tables for selection at page 46 Line junction boxes at page 50

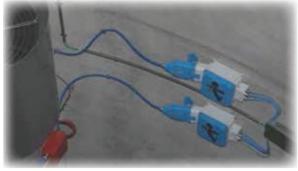
#### Reducers



Code	Terminal block	Dimensions (mm)		Cable glands		Closing (mm)		
	(mm²)	Α	В	С	P1	P2	P1	P2
151531	3x70	185	252	152	M50	M40	26-35	15-27
151532	3x70	185	252	152	M63	M40	34-45	15-27
151533	3x70	185	252	152	3xM32	M40	11-21	15-27
151534	3x125	252	315	193	3xM40	M40	15-27	15-27
151535	3x200	252	315	193	3xM40	M40	15-27	15-27

#### **SOCKETS FOR VENTILATORS UP TO 117KW**





# Advantages

#### **EASY TO HANDLE**

The long leverage can be padlocked allows to open and close easily the isolator switch.

#### HIGH PERFORMANCE

Thanks to the 125A isolator switch, it is able to control even electroventilators with power up to 117kW.

#### **INCREASED PROTECTION**

The special shape of the socket with flat poles allows a wider contact surface, protecting against possible overheating caused by high loads.

# Approvals

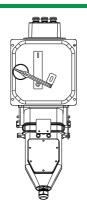




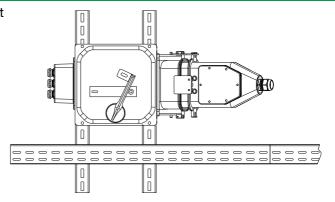
The FIRE PROOF approval guarantees the service continuity at 400°C for 120 minutes, and is certified by internationally accredited laboratories.

Solutions for Mounting





# Tray support



#### **SOCKETS FOR VENTILATORS UP TO 117KW**

Switched interlocked socket with plug for power supply system for tunnel ventilators. The system is made of aluminium alloy and designed to guarantee the service continuity at 400°C for 120 minutes as per IEC EN 12101-3 and 2004/54/EC.

The socket is equipped with an isolator switch with AC23A-AC3 category with contacts in silver alloy and contact-holder discs in high-thickness reinforced thermosetting that guarantees the dimensional stability and resistance to temperature change due to temporary overloads. The connection terminals are with bolt M12 type and the external connection is ensured by a screw terminal M6 type out of the socket enclosure. The opening and closing of the lid is guaranteed by captive screws made of stainless steel. The handle of the isolator switch is made of aluminium and can be padlocked. The socket cable entry allows the connection of single or multi core FTG10(O)M1-type cables up to the section of 35mm², and with additional box, up to 185mm². The plug is industrial type, in conformity to IEC EN 60309-1 and IEC EN 60309-2, with cable entry through cable gland in nickeled brass with radial closing, dimensioned to accept three core FTG10(O)M1-type cables up to the section of 25mm². The system can be mounted on the wall, on tray or on the tray support with the proper kit. The protection rating of the system is IP66 as per IEC EN 60529 Standard, and the mechanical resistance is IK10 as per IEC EN 5012 Standard.

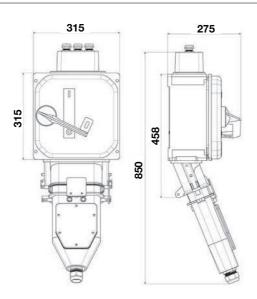
# Technical datasheet

	2004/54/EC
Conformity to Standards	ANAS/2009: Guidelines for road tunnel safety design IEC EN 60309-1, IEC EN 12101-3
Body material	Aluminium alloy EN 1706 AC-46100DF (Ex UNI 5076)
	,
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10
Resistance to fire	400°C for 120 minutes (FIRE PROOF)
Insulation class	I

Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours)		
Weight	20Kg socket 4,5Kg plug		
Painting	Hot polymerized non-toxic polyester		
Rated current Rated voltage Frequency Socket type	63A - 125A 400V - 690V 50-60Hz 3P+E		
Isolator switch category	63A AC23A - AC3 600-690V 65kW AC23A - AC3 380-415V 44kW 125A AC23A - AC3 600-690V 117kW AC23A - AC3 380-415V 75kW		
Socket cable entry	Single core up to 125mm² (external Ø 27mm max) Multi core up to 120mm² (external Ø 48mm max)		
Plug cable entry	Multi core up to 16mm² (external Ø 21mm max)		

# Codes and dimensions

Switched interlocked sockets and plugs	□ 151880	□ 151881	□ 151890	□ 151891
Flanges for multi core cables	□ 151930	□ 151931	□ 151932	□ 151933
Flanges for single core cables	□ 151940	□ 151941	□ 151942	
Kit for mounting on ceiling	□ 151900			



Tables for selection at page 48 Line junction boxes at page 50

## **COMBINATION UNITS IN THEMOSETTING (GRP)**





# Advantages

#### **RELIABLE**

Isolator switch with category AC3-AC23A with rated current guaranteeing the resistance even to harshest loads.

#### **RESISTANT**

The resistance to aggressive external environments is guaranteed by the external enclosure, the fuseholder base in ceramic and the interlock in steel.

#### HIGH VISIBILITY

The blue colour of the enclosure allows to immediately locate the position of the distribution board. The high visibility operation allows to see if the sockets are powered even from far.

# **Approvals**



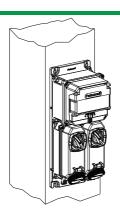
The enclosure is made of halogen free thermosetting resin: it does not burn, smoke or propagate the fire.

Solutions for Mounting

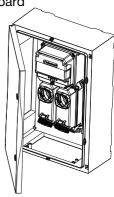
Wall



Pillar



Distribution board





## **COMBINATION UNITS IN THEMOSETTING (GRP)**

Socket combination units wired in thermosetting (GRP) material in compliance to 61439-1 standard with 2 pieces of 16A switched interlocked sockets with fuses. The enclosure is made of thermosetting (GRP) with resistance to abnormal heat and fire of 960°C ("Glow-wire" as per IEC EN 60695-2-10) and self-extinguishing grade V0 as per UL94.

The sockets comply with the IEC EN 60309-1 and IEC EN 60309-2 Standards; the isolator switch has a short circuit conditional current of 10KA and AC23A-AC3 category at rated current, the interlock system is made of zinced steel. The protection rating is IP66 as per IEC EN 60529 Standard, and the mechanical resistance to impacts is IK10 as per IEC EN 50102 Standard. The protection is made with E16 (NDz) type 16A 500V fuses installed on a fuseholder base made of ceramic.

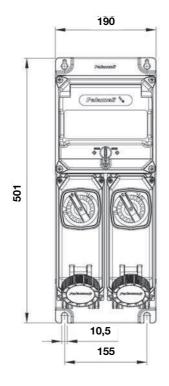
# Technical datasheet

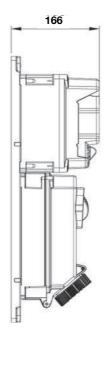
Conformity to Standards	IEC EN 61439-1 IEC EN 61439-2
Body material	Thermosetting (GRP)
Protection rating (IP as per IEC/EN 60529)	IP66/IP67
Resistance to impacts (IK grade as per IEC/EN 62262)	IK10
Resistance to abnormal heat and fire ("Glow Wire" as per IEC/EN 60695-2-10)	960°C

Self-extinguishing grade	V0 (UL94)
Insulation class	IIO
Weight	3,7Kg
Rated current Rated voltage Frequency Socket type	32A 230-380V 50-60Hz 2P+E 6h
Switch category	AC3-AC23A at rated current
Protection type	E16 (NDz) 16A 500V fuse

# Codes and dimensions

Combination unit with blind cover	□ 500461	□ 500462	□ 500463
Combination unit with transparent lid and RCD	□ 500411	□ 500412	□ 500413
Accessories	□ 710126	□ 710136	





Tables for selection at page 53

#### **JUNCTION BOX IN ALUMINIUM ALLOY**





# Advantages

#### SIMPLE INSTALLATION

The box can be installed keeping the screwdriver straight, without doing it sideways.

# TOTAL COMPATIBILITY

The external and internal fixing holes are compatible with the technical specifications.

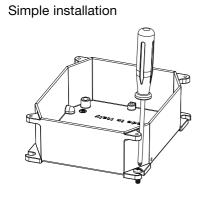
#### **EASILY EQUIPPABLE**

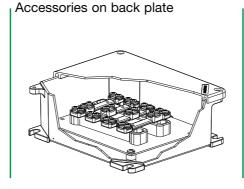
The box can be easily equipped with a DIN rail placed orthogonally, without any additional accessories.

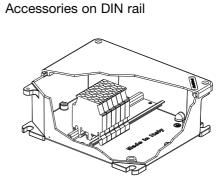
## RESISTANT TO CORROSION

The ecological passivation treatment with fluoro-zirconium and the hot polymerized non-toxic painting allows the maximum resistance to corrosion of the product even in the harshest environments.

Solutions for Mounting







<sup>4</sup> Palazzoli

#### **JUNCTION BOX IN ALUMINIUM ALLOY**

Universal box in EN 1076 AC-46100DF aluminium alloy suitable for connecting electrical and electronic devices, internally and externally coated with anti-scratch powder polymerized at 180°C after a galvanic treatment with fluoro-zirconium, that allows the maximum resistance to oxidation.

The protection rating is IP66 as per IEC EN 60529 Standard, and the mechanical resistance is IK08 as per IEC EN 50102 Standard. Predisposed for earthing connection, internally inside the box or on the lid, or externally without through hole. The box allows to orthogonally install a DIN rail by means of M4x6 self-tapping screws.

# Technical datasheet

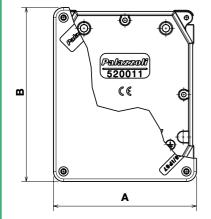
Conformity to Standards	IEC EN 62208
Body material	EN 1706 AC-46100DF (Ex UNI 5076) aluminium alloy
Protection rating (IP as per IEC/EN 60529)	IP66/IP67
Resistance to impacts (IK rating as per IEC/EN 62262)	IK08

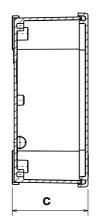
Insulation class	1
Resistance to corrosion	Resistance to salt spray test as per ISO Standard 9227 (724 hours) with ecological treatment of passivation with fluoro-zirconium
Painting	Hot polymerized non-toxic polyester
Earthing connection	Predispositions inside the back box (for internal or external connection) and on the cover.

# Codes and dimensions

Box	□ 520009	□ 520011	□ 520012	□ 520014	□ 520019	□ 520020	□ 520021
Plate		□ 522011	□ 522012	□ 522014	□ 522019	□ 522020	□ 522021
DIN rail	□ 521009	□ 521011	□ 521012	□ 521014	□ 521019	□ 521020	□ 521021

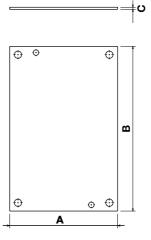






Code	External dimensions (mm)				
	Α	В	С		
520009	100	100	59		
520011	115	140	61		
520012	141	166	64		
520014	168	192	80		
520019	217	253	93		
520020	264	314	122		
520021	315	410	150		

Plate



Code	Α	В	С
522011	78	119	1,5
522012	108	132	1,5
522014	125	165	1,5
522019	165	200	1,5
522020	210	250	1,5
522021	257	345	1,5

Tables for selection at page 53



Switched interlocked sockets for ventilators up to 47kW for single-pole cables, with plug 50-60Hz IP66 400°C 120'

M40 Ø 15÷27mm

Rated current (A)	Rated use voltage	Poles	Auxiliary contact (AUX)	Palazzoli Code	Pack Q.ty
63	380÷415V	3P+E	1 NO	151611	1
63	600÷690V	3P+E	1 NO	151612	1

#### **Equipment included:**

No. 1 63A 3P+E plug IP67. Cable glands included. External earth terminal.





Switched interlocked sockets for ventilators up to 47kW for multi-pole cables, with plug 50-60Hz IP66 400°C 120'

M40 😻 Ø 15÷27mm

Rated current (A)	Rated use voltage	Poles	Auxiliary contact (AUX)	Palazzoli Code	Pack Q.ty
63	380÷415V	3P+E	1 NO	151613	1
63	600÷690V	3P+E	1 NO	151614	1

#### **Equipment included:**

No. 1 63A 3P+E plug IP67. Cable glands included. External earth terminal.



Reducers for large-section single-pole cables 400°C 120' 850°C 90' IP66

Line cables sections (mm²)	Terminals poles sections (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli Code	Pack Q.ty
from 50 to 70	3x70	185x252x152	M32 (11÷21)	151533	1
from 95 to 120	3x125	252x315x193	M40 (15÷27)	151534	1
from 150 to 185	200	315x315x193	M40 (15÷27)	151535	1

#### **Equipment included:**

fittings for internal and external earth screws M40 output sized for 3x25mm² or 3x16mm² cables Code 151535 with cable glands installes on a raised flange F5.



Reducers for large-section multi-pole cables 400°C 120' 850°C 90' IP66

Line cables sections (mm²)	Terminals poles sections (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli Code	Pack Q.ty
50	3x70	185x252x152	M50 (22÷35)	151531	1
70	3x70	185x252x152	M63 (35÷48)	151532	1

#### **Equipment included:**

fittings for internal and external earth screws M40 output sized for 3x25mm² or 3x16mm² cables.



Pair of supports in stainless steel AISI 304 for wall mounting of sockets for ventilators

Applications	Palazzoli code	Pack Q.ty
wall mounting with support	151541	1



Pair of supports in stainless steel AISI 304 for fastening sockets for ventilators to channel

Applications	Palazzoli code	Pack Q.ty
for L 200mm channel	151542	1
for L 300mm channel	151543	1



Kit of screws in stainless steel AISI 304 for fastening sockets for ventilators to channel rod

Applications	Palazzoli code	Pack Q.ty
fastening to channel rod	151544	1



Junction boxes in reinforced technopolymer with insulation perforation for single-pole cables IP66

Line cable section (mm²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4 - 16	II	164x242x135	-	158201	1
4 - 16	II	164x242x135	1 fusibile 4A (L)	158211	1



Junction boxes in aluminium alloy for single-pole cables in aluminium alloy for ordinary circuits with IEC309-2 socket IP66 - > IK10



Line cable section (mm²)	Section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
2x (1x4)-2x (1x6)	10	185x252x152	M16 (4÷9,5)	SL461304	1
2x (1x10)-2x (1x16)	16	185x252x152	M20 (7÷13)	SL461305	1
2x (1x25)-2x (1x35)	25-35-50	185x252x152	M32 (11÷21)	SL461306	1
2x (1x50)-2x (1x70)	70-95	252x315x193	M32 (11÷21)	SL461307	1



Junction boxes in aluminium alloy with insulation perforation for single-pole cables with cable gland for emergency circuits IP66 - 850°C 90'

M20 Ø 7÷13mm

Line cable section (mm²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4-35	- 1	247x225x130	1 fuse 4A (L)	157011	1
4-35	1	247x225x130	2 fuses 4A (L+N)	157111	1
4-35	II	247x225x130	1 fuse 4A (L)	158011	1
4-35	II	247x225x130	2 fuses 4A (L+N)	158111	1



2xM20 Ø 7÷13mm

Junction boxes in aluminium alloy with insulation perforation for single-pole cables with 2 cable glands for emergency circuits IP66 - 850°C 90'

Line cable section (mm²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4-35	ı	247x225x130	1 fuse 6A (L)	157012	1
4-35	ı	247x225x130	2 fuses 6A (L+N)	157112	1
4-35	II	247x225x130	1 fuse 6A (L)	158012	1
4-35	II	247x225x130	2 fuses 6A (L+N)	158112	1



2P+E 230V

Junction boxes in aluminium alloy with insulation perforation for single-pole cables with socket for emergency circuits IP66 - 850°C 90'

Line cable section (mm²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4-35	- 1	247x225x130	1 fuse 4A (L)	157001	1
4-35	I	247x225x130	2 fuses 4A (L+N)	157101	1
4-35	II	247x225x130	1 fuse 4A (L)	158001	1
4-35	II	247x225x130	2 fuses 4A (L+N)	158101	1



Supports for insulation perforation boxes

Manufacture material	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	157050	20
Painted zinced steel RAL 7035	157051	20

#### **Equipment included:**

suitable for channel with maximum height of 100 mm.



Screws for fixing junction boxes in aluminium on support

	ılazzoli Pack code Q.ty
Stainless steel 15	<b>7060</b> 100



Switched interlocked sockets for ventilators up to 117kW in enclosure predisposed for flanges 50-60Hz IP66 400°C 120'

Rated current (A)	Rated voltage	Poles	Palazzoli code	Pack Q.ty
63	400÷690V	3P+E	151880	1
125	400÷690V	3P+E	151881	1



Flanges in aluminium alloy for multi-pole cables cable gland in brass 400°C 120' 850°C 90' IP66

Line cable gland	Fastening diameter (mm)	Palazzoli code	Pack Q.ty
M32	(11÷21)	151930	1
M40	(15÷27)	151931	1
M50	(22÷35)	151932	1
M63	(35÷48)	151933	1



Plugs with cable gland, for ventilators up to 117kW 50-60Hz IP66 400°C 120'

Rated current (A)	Rated voltage	Poles	Palazzoli code	Pack Q.ty
63	400÷690V	3P+E	151890	1
125	400±690V	3P+F	151891	1



Flanges in aluminium alloy for single-pole cables cable gland in brass 400°C 120' 850°C 90' IP66

Line cable gland	Fastening diameter (mm)	Palazzoli code	Pack Q.ty
No. 3 x M25	(8÷16)	151940	1
No. 3 x M32	(11÷21)	151941	1
No. 3 x M40	(15÷27)	151942	1



Supports for ceiling mounting of sockets for ventilators up to 117kW

Manufacture material	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	151900	1

#### Characteristics:

complete with adjustable support for ceiling and 50x30mm perfile and screws.



Ø 8÷16mm

Junction boxes in aluminium alloy with terminal block for single-pole cables with cable gland for emergency circuits IP66 - 850°C 90"

<del>                                      </del>	

Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
2x (1x4)-2x (1x6)	2x6	185x185x105	M16 (4÷9,5)	151011	1
2x (1x10)-2x (1x16)	2x16	185x185x105	M20 (7÷13)	151022	1
2x (1x25)-2x (1x35)	2x40	185x252x152	M25 (8÷16)	151034	1
2x (1x50)-2x (1x70)	2x70	252x315x193	M32 (11÷21)	151045	1

#### **Equipment included:**

reduction insert for cable glands.



in aluminium alloy with terminal block for single-pole cables with socket for emergency circuits IP66 - 850°C 90'



Junction boxes

Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
2x (1x4)-2x (1x6)	2x6	185x185x105	M16 (4÷9,5)	151311	1
2x (1x10)-2x (1x16)	2x16	185x185x105	M20 (7÷13)	151322	1
2x (1x25)-2x (1x35)	2x40	185x252x152	M25 (8÷16)	151334	1
2x (1x50)-2x (1x70)	2x70	252x315x193	M32 (11÷21)	151345	1

#### **Equipment included:**

reduction insert for cable glands.

#### **Characteristics:**

2-pin terminal block fixed on ceramic base with brass conductive bars and two screws non-loosening terminals.

Nickel-plated brass cable glands with ISO metric thread and cable radial fastening.

M6 inside and outside earth terminal. Protection of the power supply phase of the light body using an E14-D01 ceramic fuse-holder base complete with fuses.

The fuse base is prewired at junction box.

With socket-outlet 16A - 2P+E.

The resistance at 850° C for 90' is applied to the enclosure.

## **Complementary items:**

fastening brackets at page 46.



M25 Ø 8÷16mm

Junction boxes in aluminium alloy with terminal block for multi-pole cables with cable gland for emergency circuits IP66 - 850°C 90'



Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
4x4 - 4x6	4x6	185x252x152	M32 (11÷21)	151241	1
4x10	4x16	185x252x152	M32 (11÷21)	151242	1
4x16	4x16	185x252x152	M40 (15÷27)	151252	1
4x25 - 4x35	4x40	185x252x152	M40 (15÷27)	151264	1
3x50+25 - 3x70+35	4x70	252x315x193	M50 (22÷35)	151275	1
70	4x70	252x315x193	M63 (35÷48)	151285	1



2P+E 230V

Junction boxes in aluminium alloy with terminal block for multi-pole cables with socket for emergency circuits IP66 - 850°C 90'



Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
4x4 - 4x6	4x6	185x252x152	M32 (11÷21)	151441	1
4x10	4x16	185x252x152	M32 (11÷21)	151442	1
4x16	4x16	185x252x152	M40 (15÷27)	151452	1
4x25 - 4x35	4x40	185x252x152	M40 (15÷27)	151464	1
3x50+25 - 3x70+35	4x70	252x315x193	M50 (22÷35)	151475	1
70	4x70	252x315x193	M63 (35÷48)	151485	1



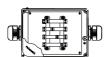
Glazing enclosures fan power supply lines IP66 - > IK10 400°C for 120'/850°C for 90'



Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
3x10-3x16- 3x25	3x25	185x185x105	M40 (15÷27)	151553	1
3x35	3x40	252x185x152	M40 (15÷27)	151564	1
3x50	3x70	252x185x152	M50 (22÷35)	151575	1
3x70	3x70	252x185x152	M63 (35÷48)	151585	1



Line junction boxes for power supply lines for tunnel lighting fixtures IP66 - 850°C 90"



Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
4x4 - 4x6	4x6	252x185x152	M32 (11÷21)	151641	1
4x10	4x16	252x185x152	M32 (11÷21)	151642	1
4x16	4x16	252x185x152	M40 (15÷27)	151652	1
4x25 - 4x35	4x40	252x185x152	M40 (15÷27)	151664	1
3x50+25 - 3x70+35	4x70	315x252x193	M50 (22÷35)	151675	1
70	4x70	315x252x193	M63 (35÷48)	151685	1

## Characteristics:

4-pole terminal block fixed on ceramic base with brass conductive bars and two screw non-loosening terminals.

No. 2 nickel-plated brass cable glands with ISO metric thread and cable radial fastening. M6 internal and external earth terminal.

# On request:

box in stainless steel.



Supports for mounting of junction boxes

Manufacture materiale	For boxes with dimensions	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	185x185 - 252x185	151901	10
Stainless steel AISI 304	185x252 - 315x252	151902	10
Stainless steel AISI 304	252x315	151903	10

#### **Equipment included:**

screws for fixing the boxes.



LED tunnel lighting fixture for permanent lighting with axially symmetrical and transversally symmetrical optic IP66

No. Led	Power (W)	Luminous flux (lm)	Palazzoli code	Pack Q.ty
4	34	4160	154304	1
6	51	6240	154306	1
8	68	8320	154308	1
12	103	12480	154312	1



Pair of supports in stainless steel for rapid fixing of LED lighting fixtures for permanent lighting

Manufacture material	Tray dimensions	Palazzoli code	Pack Q.ty
	100x75	151910	1
	200x75	151911	1
stainless steel AISI 304 —	300x75	151912	1
Stainless steel AlSi 304 —	100x100	151913	1
<del>=</del>	200x100	151914	1
	300x100	151915	1



LED tunnel lighting fixture for permanent and reinforcing lighting with axially symmetrical and transversally 20° asymmetrical optic IP66

No. Led	Power (W)	Luminous flux (lm)	Palazzoli code	Pack Q.ty
4	34	4160	154404	1
6	51	6240	154406	1
8	68	8320	154408	1
12	103	12480	154412	1
18	154	18720	154418	1
24	205	24960	154424	1
30	257	31200	154430	1
36	308	37440	154436	1
42	359	43680	154442	1
48	410	49920	154448	1
54	462	56160	154454	1



Pair of supports in stainless steel for rapid adjustable fixing of LED lighting fixtures for reinforcing lighting

Manufacture material	Tray dimensions	Palazzoli code	Pack Q.ty
	100x75	151920	1
	200x75	151921	1
stainless steel AISI 304 —	300x75	151922	1
Stairliess steel AlSi 304	100x100	151923	1
_	200x100	151924	1
_	300x100	151925	1



LED tunnel lighting fixture for reinforcing lighting with axially 60° counter-beam and transversally symmetrical optic IP66

No. Led	Power (W)	Luminous flux (lm)	Palazzoli code	Pack Q.ty
6	51	6240	154606	1
12	103	12480	154612	1
18	154	18720	154618	1
24	205	24960	154624	1
30	257	31200	154630	1
36	308	37440	154636	1
42	359	43680	154642	1
48	410	49920	154648	1
54	462	56160	154654	1





LED lighting fixtures in stainless steel-satin finish glass with wide beam 230V IP66





M20 cable gland technopolymer

Power (W)	Length (mm)	Luminous flux (Lm)	Power supply	Palazzoli Code	Pack Q.ty
28	690	3170	electronic	822142	1
51	1300	5900	electronic	822242	1
65	1600	8000	electronic	822342	1

#### Characteristics:

lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug.



1 entry on one side M20 cable gland brass

Stainless steel-glass lighting fixtures with symmetrical reflector and electronic ballast 230V IP66

Power (W)	Power supply	Lampholder and lamps	Palazzoli Code	Pack Q.ty
2x18	electronic	G13 T8	152132	1
2x36	electronic	G13 T8	152232	1
2x54	electronic	G5 T5	152962	1

#### **Characteristics:**

lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug. Fluorescent tubes are not included.



Stainless steel-glass lighting fixtures with asymmetrical reflector and electronic ballast 230V IP66





M20 cable gland brass

Power (W)	Power supply	Lampholder and lamps	Palazzoli Code	Pack Q.ty
2x18	electronic	G13 T8	153132	1
2x36	electronic	G13 T8	153232	1
2x54	electronic	G5 T5	153962	1

#### **Characteristics:**

lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug. Fluorescent tubes are not included.



Pair of supports for rapid mounting of tunnel lighting fixtures

Manufacture material	Applications	Palazzoli Code 820004	Pack Q.ty
stainless steel AISI 304	for L 200mm channel	820004	1
stainless steel AISI 304	for L 300mm channel	820005	1



Pair of swivelling supports for ceiling or wall mounting of steel lighting fixtures

Manufacture material	Rotating angle	Palazzoli Code	Pack Q.ty	
stainless steel AISI 304	± 75°	820000	1	_



AS wired and certified ready-to-use distribution boards with 2 16A interlocked socket-outlets with fuses, differential protection 40A 30mA, in thermosetting (GRP) material IP66/IP67

16A Interlocked	16A Interlocked socket-outlets		Palazzoli Code 500461 500462	Palazzoli	Pack
2P+E 230V	3P+E 400V	protection	Code	Q.ty	
2		40A 2P 30mA	500461	1	
1	1	40A 4P 30mA	500462	1	
	2	40A 4P 30mA	500463	1	

#### **Equipment included:**

sockets with fuses included.



AS wired and certified ready-to-use distribution boards with 2 16A interlocked socket-outlets and fuses in thermosetting (GRP) material IP66/IP67

16A Interlocked	socket-outlets	Palazzoli	Pack
2P+E 230V	3P+E 400V	Code	Q.ty
2		500411	1
1	1	500412	1
	2	500413	1

## **Equipment included:**

board with terminal block of 4x16mm<sup>2</sup> sockets with fuses included.



Universal enclosures in aluminum alloy IP66/IP67 - IK08

Description	Dimensions (mm)		Palazzoli	Pack
Description	external	internal	Code	Q.ty
enclosure UNI B9	100x100x59	88x88x44	520009	30
enclosure UNI B11	140x115x61	128x103x46	520011	20
enclosure UNI B12	166x141x64	153x128x49	520012	20
enclosure UNI B14	192x168x80	176x152x65	520014	10
enclosure UNI B19	253x217x93	236x201x75	520019	1
enclosure UNI B20	314x264x122	292x243x104	520020	1
enclosure UNI B21	410x315x150	386x291x126	520021	1

#### **Equipment included:**

- 4 screws for fixing the cover on the box
- 2 screws for predispositions of earth connection

#### **Characteristic:**

covers with anti-loosening stainless steel screws. Enclosures predisposed for fixing the DIN rail horizzontally or vertically using M4x6 self-tapping screws. Palazzoli DIN rail can be mounted only diagonally.



Bottom plates in zinced steel for UNIBOX enclosures

Description	Dimensions (mm)	Palazzoli Code	Pack Q.ty
for enclosure UNI B11	119x78	522011	1
for enclosure UNI B12	132x108	522012	1
for enclosure UNI B14	165x125	522014	1
for enclosure UNI B19	200x165	522019	1
for enclosure UNI B20	250x210	522020	1
for enclosure UNI B21	345x257	522021	1

#### **Equipment included:**

- 4 screws for fixing the cover on the box
- 2 screws for predispositions of earth connection.



DIN EN 50022 rail for UNIBOX enclosures

Descrption	Palazzoli Code	Pack Q.ty
for enclosure UNI B9	521009	1
for enclosure UNI B11	521011	1
for enclosure UNI B12	521012	1
for enclosure UNI B14	521014	1
for enclosure UNI B19	521019	1
for enclosure UNI B20	521020	1
for enclosure UNI B21	521021	1

## Equipment included:

2 screws for predispositions of earth connection.



# SOLUTIONS FOR ROADWAY, RAILWAY AND UNDERGROUNDS

Roadway

Railway and undergrounds





#### **Tunnels**

Salerno-Reggio Calabria motorway - SS. 42 Tonale
A1/A14 Italian motorway
Catania Siracusa motorway - SS. 145 Sorrentina
PF Lombardia: 100 tunnels - SS. 106 Jonica
SS. 125 Capoboi - La Rupe Trento - Secante Cesena

## Undergrounds

Torino - Brescia - Milano - Napoli - Roma Firenze - Copenaghen - Londra - Dubai Madrid - Atene - Hong Kong