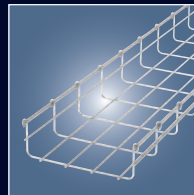


GEWISS

Photovoltaic system solutions



20 12

Energy

Domotics Energy Lighting

THE GEWISS GROUP



FRANCE

GEWISS FRANCE - LES ULIS



GERMANY

GEWISS DEUTSCHLAND - MERENBERG



UNITED KINGDOM

GEWISS UK - CAMBOURNE



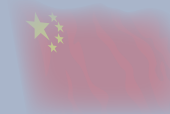
SPAIN

GEWISS IBÉRICA - MADRID



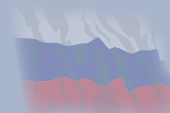
PORTUGAL

GEWISS PORTUGAL - PENAFIEL



CHINA

GEWISS TRADING - SHANGHAI



RUSSIA

GEWISS RUSSIA - MOSCOW



TURKEY

GEWISS ISTANBUL - ISTANBUL



ROMANIA

GEWISS ROMANIA - BUCHAREST



CHILE

GEWISS CHILE - SANTIAGO DE CHILE



UAE

GEWISS GULF - DUBAI

GEWISS is an international leader in the production of systems and components for low voltage electrical installations. The fact that development is seen as a constant management feature has permitted GEWISS to assert itself as a reference interlocutor for the electrotechnical market in the creation of solutions for domotics, energy and the lighting industry. It is now present in Italy, France, Germany, the United Kingdom, Spain, Portugal, China, Russia, Turkey, Romania, Chile, the United Arab Emirates and in a further 80 countries around the world.



ITALY



MAIN GEWISS OFFICES - CENATE SOTTO (Bg) - ITALY

• LOOKING AHEAD •

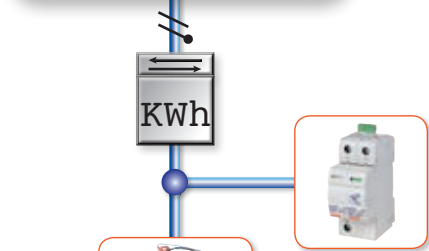



GEWISS is offering itself as a supplier of photovoltaic products, becoming an active part of the astonishing recent growth in renewable energy sources.

Today, the photovoltaic system is a prime investment application, not only as an ecological choice but also to reduce the cost of energy demand. Anyone can become an electricity producer and that's precisely why the photovoltaic field, compared with other types of renewable energy, has drawn in not only the industrial sector but especially - in terms of the number of systems installed - the commercial/residential sector, requiring specific products for creating the systems.


The solutions offered by **GEWISS** allow the energy produced by photovoltaic panels to be transported in low voltage as far as the link-up with the mains supply. The products relate to both the direct current and the alternating current sides, hence meeting the widest range of protection, isolation, distribution and canalisation needs of the system, with just a few codes.

An example of a residential and small commercial PV system







AC LST surge protective devices




ReSTART RM PRO 2P self-reclosing devices




MT circuit breaker protection




40 CDK range enclosures and parallel boards



DC LST surge protective devices

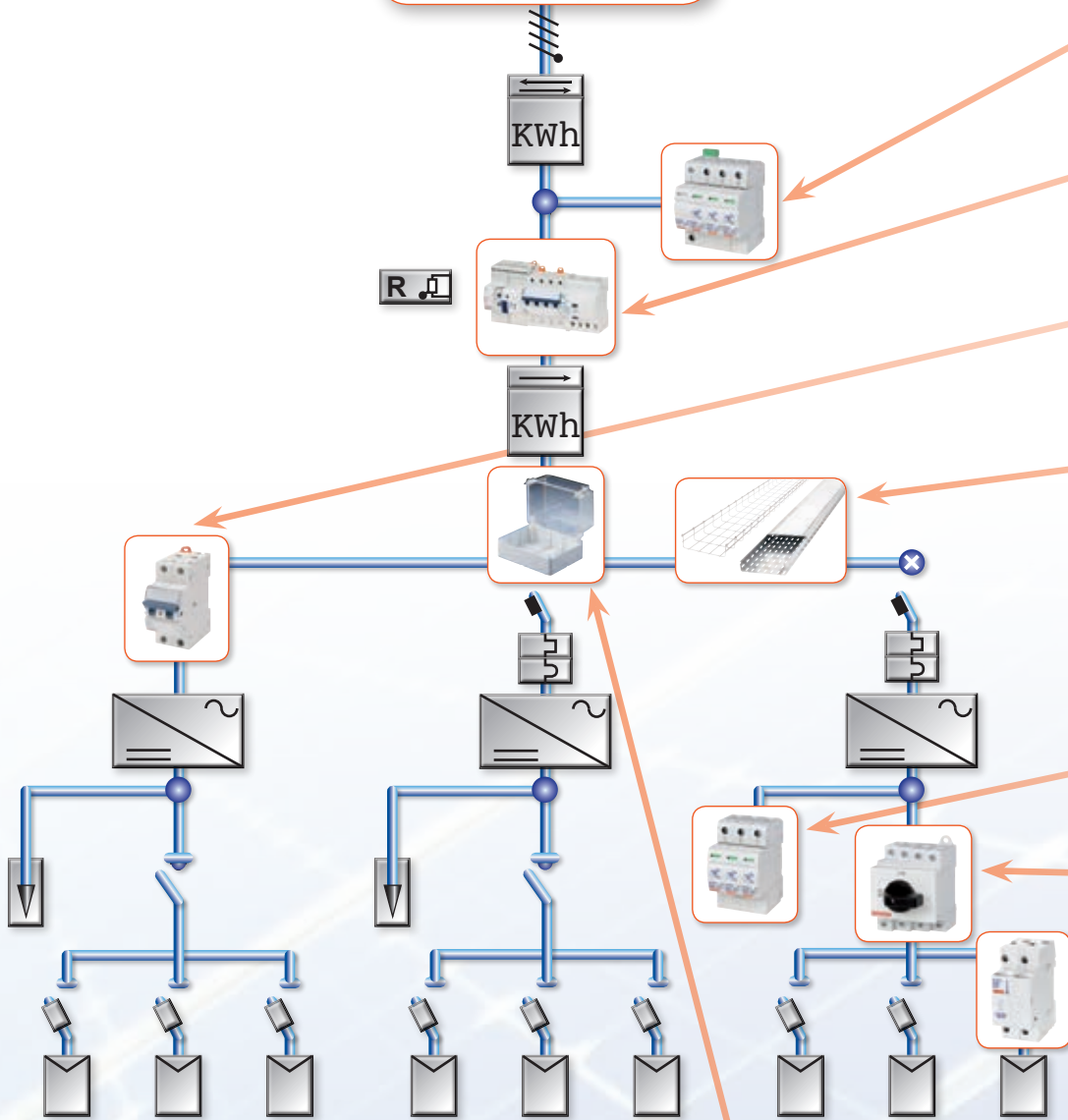



DC switch disconnectors



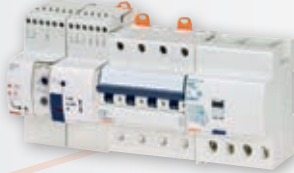
Prewired string boards

An example of a commercial and industrial PV system







AC LST surge protective devices



ReStart RM TOP 4P self-reclosing devices




MT circuit breaker protection




46 QP parallel boards




Cable trays




DC LST surge protective devices



DC switch disconnectors



DC disconnectable fuse-holders



Prewired string boards



44 CE junction and control boxes

Pre-wired string boards

The string boards are already wired and designed for installation in photovoltaic systems up to 1000V DC. The boards, in insulation class II, are already equipped with all the components needed to isolate and protect the PV system.

New Products



READY TO BE CONNECTED

The string boards are already complete with cable glands and terminal blocks enabling quick and easy safe connection to the system. The cable glands are supplied as spare parts, so the connection cable can be made according to individual needs (from the top, bottom or sides). They are supplied with insulated and earth terminals.



ALREADY TESTED AND CERTIFIED

The string boards have been tested in the GEWISS laboratories, passing all the tests envisaged by standards EN 61439-1 and EN 61439-2 for product certification.



RANGE DESIGNED FOR DIFFERENT APPLICATIONS

The 90 PV range contains 6 versions to meet the most varying photovoltaic plant engineering requirements, from residential applications to commercial/industrial. The different versions are distinguished by the number of strings that can be managed and by the voltage level of the photovoltaic plants.

DC modular products

The range consists of modular products designed for the DC side of the photovoltaic system.

It includes:

- switch disconnectors
- surge protective devices
- fuse-holders and fuses

New Products



SWITCH DISCONNECTORS

- The GEWISS photovoltaic range includes compact rotary switch disconnectors (only 3.5 modules) providing isolation between the solar panels and inverter. They are available in both 2-pole and 4-pole versions up to 1000V, guaranteeing the best performance even in the DC22B category.



LST SURGE PROTECTIVE DEVICES

- The new range of LST surge protective devices also includes specific SPDs purposely designed for the photovoltaic system, offering full protection against indirect discharges (Type 2). All versions are equipped with removable cartridges with an end-of-life indicator.

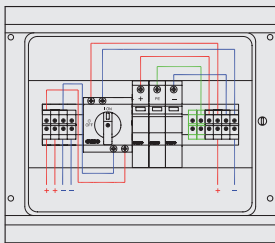


DISCONNECTABLE FUSE HOLDERS

- The GEWISS photovoltaic range is completed with the disconnectable fuse-holders for protecting and insulating the individual strings. This means better electricity production management and back-up protection for the surge protective devices.

90 PV RANGE - STRING BOARDS

2 STRINGS - 600V DC - 25A GW D9901



Pre-wired board for connecting 1 or 2 strings of photovoltaic panels to the inverter. It includes:

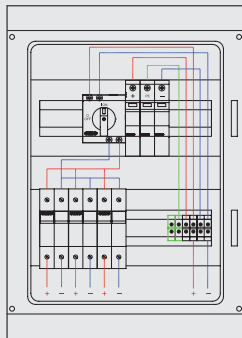
- watertight enclosure
- 1 rotary switch disconnecter 2-pole
- 1 surge protective device with extractable cartridges

TECHNICAL DATA

Standards:	EN 61439-1 and EN 61439-2
No. of modules of 40CDK enclosure:	1x12
Degree of protection:	IP65
Insulation class:	Class II
Rated voltage of the switch disconnecter (Ue):	600V DC
Rated current of the switch disconnecter (In):	25A
Rated operational voltage of the SPD (Un):	600V DC
Connection cable section:	6mm ²

STRING BOARD EQUIPMENT: cable glands (supplied loose) and equipotential terminal blocks.
NB: DC fuses not supplied.

3 STRINGS - 600V DC - 25A GW D9902



Pre-wired board for connecting 3 strings of photovoltaic panels to the inverter. It includes:

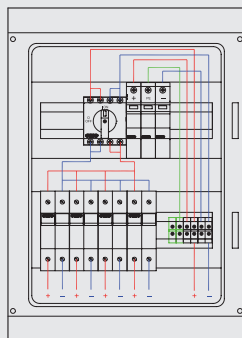
- watertight enclosure
- 1 rotary switch disconnecter 2-pole
- 1 surge protective device with extractable cartridges
- 3 disconnectable fuse-holders

TECHNICAL DATA

Standards:	EN 61439-1 and EN 61439-2
No. of modules of 40CDK enclosure:	2x12
Degree of protection:	IP65
Insulation class:	Class II
Rated voltage of the switch disconnecter (Ue):	600V DC
Rated current of the switch disconnecter (In):	25A
Rated operational voltage of the SPD (Un):	600V DC
Connection cable section:	6mm ²

STRING BOARD EQUIPMENT: cable glands (supplied loose) and equipotential terminal blocks.
NB: DC fuses not supplied.

4 STRINGS - 600V DC - 50A GW D9903



Pre-wired board for connecting 4 strings of photovoltaic panels to the inverter. It includes:

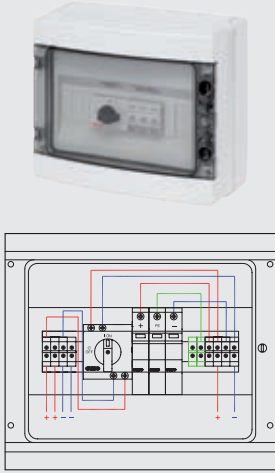
- watertight enclosure
- 1 rotary switch disconnecter 4-pole
- 1 surge protective device with extractable cartridges
- 4 disconnectable fuse-holders

TECHNICAL DATA

Standards:	EN 61439-1 and EN 61439-2
No. of modules of 40CDK enclosure:	2x12
Degree of protection:	IP65
Insulation class:	Class II
Rated voltage of the switch disconnecter (Ue):	600V DC
Rated current of the switch disconnecter (In):	50A (2 poles in parallel)
Rated operational voltage of the SPD (Un):	600V DC
Connection cable section:	6mm ²

STRING BOARD EQUIPMENT: cable glands (supplied loose) and equipotential terminal blocks.
NB: DC fuses not supplied.

**2 STRINGS - 800V DC - 20A
GW D9906**



Pre-wired board for connecting 1 or 2 strings of photovoltaic panels to the inverter. It includes:

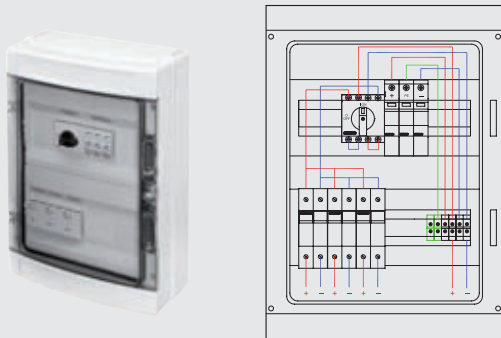
- watertight enclosure
- 1 rotary switch disconnecter 2-pole
- 1 surge protective device with extractable cartridges

TECHNICAL DATA

Standards:	EN 61439-1 and EN 61439-2
No. of modules of 40CDK enclosure:	1x12
Degree of protection:	IP65
Insulation class:	Class II
Rated voltage of the switch disconnecter (Ue):	800V DC
Rated current of the switch disconnecter (In):	20A
Rated operational voltage of the SPD (Un):	1000V DC
Connection cable section:	6mm ²

STRING BOARD EQUIPMENT: cable glands (supplied loose) and equipotential terminal blocks.
NB: DC fuses not supplied.

**3 STRINGS - 1000V DC - 32A
GW D9907**



Pre-wired board for connecting 3 strings of photovoltaic panels to the inverter. It includes:

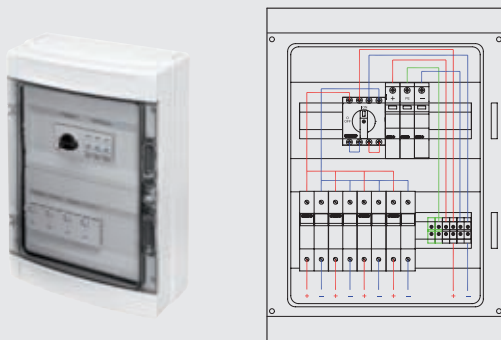
- watertight enclosure
- 1 rotary switch disconnecter 4-pole
- 1 surge protective device with extractable cartridges
- 3 disconnectable fuse-holders

TECHNICAL DATA

Standards:	EN 61439-1 and EN 61439-2
No. of modules of 40CDK enclosure:	2x12
Degree of protection:	IP65
Insulation class:	Class II
Rated voltage of the switch disconnecter (Ue):	1000V DC
Rated current of the switch disconnecter (In):	32A (4 poles in series)
Rated operational voltage of the SPD (Un):	1000V DC
Connection cable section:	6mm ²

STRING BOARD EQUIPMENT: cable glands (supplied loose) and equipotential terminal blocks.
NB: DC fuses not supplied.

**4 STRINGS - 1000V DC - 32A
GW D9908**



Pre-wired board for connecting 4 strings of photovoltaic panels to the inverter. It includes:


- watertight enclosure
- 1 rotary switch disconnecter 4-pole
- 1 surge protective device with extractable cartridges
- 4 disconnectable fuse-holders


TECHNICAL DATA

Standards:	EN 61439-1 and EN 61439-2
No. of modules of 40CDK enclosure:	2x12
Degree of protection:	IP65
Insulation class:	Class II
Rated voltage of the switch disconnecter (Ue):	1000V DC
Rated current of the switch disconnecter (In):	32A (4 poles in series)
Rated operational voltage of the SPD (Un):	1000V DC
Connection cable section:	6mm ²

STRING BOARD EQUIPMENT: cable glands (supplied loose) and equipotential terminal blocks.
NB: DC fuses not supplied.


90 PV RANGE - MODULAR DEVICES IN DIRECT CURRENT


SWITCH DISCONNECTORS						
			Compact DC switch disconnector suitable for photovoltaic installations up to 32A 1000V DC			
			TECHNICAL DATA			
			Standard:	EN 60947-3		
			Utilization category:	DC21B / DC22B		
			Rated insulation voltage (Ui):	1000V		
			Rated impulse withstand voltage (Uimp):	8 kV		
			Operating temperature:	-40 to +65°C		
			Max. cable section:	16mm ² (solid or stranded) 10mm ² (flexible, also with terminals)		
Code	Modules	Poles	Utilization category	Rated operational voltage (Ue)		
				600V DC	800V DC	1000V DC
				Rated operational current (In)		
GW 96 186	3.5	2	DC21B	25A	20A	11A
			DC22B	6A	2,5A	1,5A
GW 96 187	3.5	4	DC21B	32A	32A	32A
			DC22B	27,5A	12,5A	10A

SURGE PROTECTIVE DEVICES LST				
		Surge protective devices with extractable cartridge, suitable for photovoltaic applications up to 1000V DC		
		TECHNICAL DATA		
		Standard:	EN 61643-11	
		Type:	Type 2 (B/20μs)	
		Rated discharge current (In):	20kA	
		Maximum discharge current (Imax):	40kA	
		Back-up protection:	if Icc > 100A DC, fuse type gPV ≤ 20A if Icc < 100A DC, protection not necessary	
Code	Rated operational voltage (Un)	Maximum continuous operating voltage (Uc)	Voltage protection level at In (Up)	Modules
GW D6 426	600V DC	700V DC	≤ 2.6kV	3
GW D6 428	1000V DC	1170V DC	≤ 4kV	3

SPARE CARTRIDGES

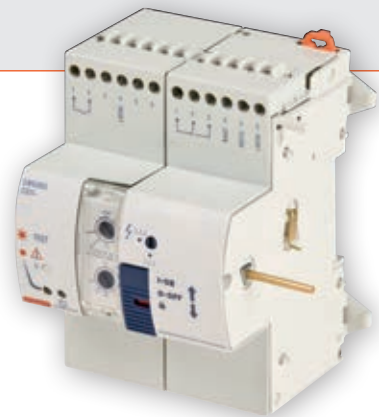
- GW D6 446 suitable for the SPD GW D6 426
- GW D6 448 suitable for the SPD GW D6 428

DISCONNECTABLE FUSE-HOLDERS				
			Fuse-holders for protection and isolation of the photovoltaic strings.	
			TECHNICAL DATA	
			Standard:	EN 60947-3
			Utilization category:	DC20B
			Rated operational voltage (Ue):	1000V DC
			Rated current (In):	20A
			Max power loss:	3W
Code	Poles	Modules		
GW 96 226	1	1		
GW 96 227	2	2		

FUSES			
		The fuses are type gPV, as required for photovoltaic applications.	
		TECHNICAL DATA	
		Standard:	IEC 60269-6
		Dimensions:	10.3 x 38mm
		Type:	gPV
		Rated operational voltage (Ue):	1000V DC
		Breaking capacity:	30kA DC
Code	Rated current (In)		
GW 72 131	6		
GW 72 132	8		
GW 72 133	10		
GW 72 134	12		
GW 72 135	16		
GW 72 136	20		

Self-reclosing devices

The earth leakages of the inverter, voltage surge and lightning, can generate the untimely trip of the residual current protection, with a consequential loss of electricity production. This can now be avoided by associating the ReSTART Automatic Reclosing Device (ARD) device with the residual current protection; after a nuisance trip, ReSTART resets the associated circuit breaker in conditions of absolute safety so the photovoltaic system can continue generating electricity.



MAXIMUM YIELD

- In the event of untimely tripping, ReSTART resets the RCBO, ensuring the best possible electricity yield at all times. This means the maximum return can be obtained from the incentives envisaged by feed-in tariffs.



REMOTE SIGNALLING FOR LOSS OF PRODUCTION

- In case of system fault, the integrated auxiliary contact signals a loss of energy production caused by circuit breaker tripping.



UTMOST FLEXIBILITY

- Thanks to the innovative ReSTART RM TOP reset device, it is also possible to set the insulation threshold (from 30 to 500mA), the automatic reset method and times, adapting them to your own requirements and the different plant set-ups, thereby minimising the loss of electricity production.

90 ReSTART RANGE - SELF-RECLOSING DEVICES

COUPLED VERSIONS ReSTART Rm 2P WITH MDC 2P



C characteristic - 2 poles - 4 modules

Icn [A]	In [A]	IΔn = 30 mA	
		A type	A type [IR]
4500	6	GW 94 225 R	-
	10	GW 94 226 R	-
	13	GW 94 231 R	-
	16	GW 94 227 R	-
	20	GW 94 228 R	-
	25	GW 94 229 R	-
	32	GW 94 230 R	-
6000	6	GW 94 325 R	GW 95 805 R
	10	GW 94 326 R	GW 95 806 R
	13	GW 94 331 R	GW 95 811 R
	16	GW 94 327 R	GW 95 807 R
	20	GW 94 328 R	GW 95 808 R
	25	GW 94 329 R	GW 95 809 R
	32	GW 94 330 R	GW 95 810 R

COUPLED VERSIONS ReSTART Rm PRO 2P WITH MDC 2P



C characteristic - 2 poles - 4 modules

Icn [A]	In [A]	IΔn = 30 mA		IΔn = 300 mA	
		A type	A type	A type [S]	A type [S]
6000	6	GW 94 325 P	GW 94 335 P	-	-
	10	GW 94 326 P	GW 94 336 P	-	-
	13	GW 94 331 P	-	-	-
	16	GW 94 327 P	GW 94 337 P	GW 95 847 P	-
	20	GW 94 328 P	GW 94 338 P	GW 95 848 P	-
	25	GW 94 329 P	GW 94 339 P	GW 95 849 P	-
	32	GW 94 330 P	GW 94 340 P	GW 95 850 P	-

MODULAR COMPATIBILITY OF ReSTART Rm PRO 4P AND Rm TOP 4P WITH MDC 4P

ReSTART Rm TOP 4P		OR		ReSTART Rm PRO 4P	ReSTART Rm PRO 4P	
4 modules				3 modules	3 modules	
GW 90 893				GW 90 986	GW 90 988	
				+	+	
				4 poles	4 poles	
				4 modules	4 modules	
Icn [A]	Charact.	Type	In [A]	IΔn = 30 mA	IΔn = 300 mA	
MDC 45						
4500	C	AC	6	GW 94 065	GW 94 075	
			10	GW 94 066	GW 94 076	
			13	GW 94 071	-	
			16	GW 94 067	GW 94 077	
			20	GW 94 068	GW 94 078	
			25	GW 94 069	GW 94 079	
			32	GW 94 070	GW 94 080	
		A	6	GW 94 265	GW 94 275	
			10	GW 94 266	GW 94 276	
			13	GW 94 271	-	
			16	GW 94 267	GW 94 277	
			20	GW 94 268	GW 94 278	
			25	GW 94 269	GW 94 279	
			32	GW 94 270	GW 94 280	
MDC 60						
6000	C	AC	6	GW 94 165	GW 94 175	
			10	GW 94 166	GW 94 176	
			13	GW 94 171	-	
			16	GW 94 167	GW 94 177	
			20	GW 94 168	GW 94 178	
			25	GW 94 169	GW 94 179	
			32	GW 94 170	GW 94 180	
			A	6	GW 94 365	GW 94 375
				10	GW 94 366	GW 94 376
				13	GW 94 371	-
				16	GW 94 367	GW 94 377
				20	GW 94 368	GW 94 378
				25	GW 94 369	GW 94 379
				32	GW 94 370	GW 94 380
		A[IR]	6	GW 95 815	-	
			10	GW 95 816	-	
			13	GW 95 821	-	
			16	GW 95 817	-	
			20	GW 95 818	-	
			25	GW 95 819	-	
			32	GW 95 820	-	
A[S]	6	-	-			
	10	-	-			
	13	-	-			
	16	-	GW 95 857			
	20	-	GW 95 858			
	25	-	GW 95 859			
	32	-	GW 95 860			

New products

MODULAR COMPATIBILITY OF ReSTART Rm TOP 4P WITH MT+BD 4P



4 modules

GW 90 893

+

MINIATURE MODULAR CIRCUIT BREAKERS (EN 60898)



No. of poles		4 poles	4 poles	4 poles
Overall dimensions		4 modules	4 modules	4 modules
I _{cn} [A]		6000	10000	25000
Characteristic	I _n [A]	MT 60	MT 100	MT 250
C	1	GW 92 081	-	-
	2	GW 92 082	-	-
	3	GW 92 083	-	-
	4	GW 92 084	-	-
	6	GW 92 085	GW 92 685	GW 92 885
	10	GW 92 086	GW 92 686	GW 92 886
	13	GW 92 094	GW 92 694	-
	16	GW 92 087	GW 92 687	GW 92 887
	20	GW 92 088	GW 92 688	GW 92 888
	25	GW 92 089	GW 92 689	GW 92 889
	32	GW 92 090	GW 92 690	GW 92 890
	40	GW 92 091	GW 92 691	GW 92 891
	50	GW 92 092	GW 92 692	GW 92 892
63	GW 92 093	GW 92 693	GW 92 893	

+

BD - ADD-ON RESIDUAL CURRENT DEVICES (EN 61009-1 APP.G)



No. of poles		4 poles		4 poles		4 poles	
Overall dimensions		3.5 modules					
Type	I _{Δn} [mA]	In≤25 A	In≤63 A	In≤25 A	In≤63 A	In≤25 A	In≤63 A
AC	30	GW 94 422	GW 94 432	GW 94 422	GW 94 432	GW 94 422	GW 94 432
	300	GW 94 423	GW 94 433	GW 94 423	GW 94 433	GW 94 423	GW 94 433
	500	GW 94 424	GW 94 434	GW 94 424	GW 94 434	GW 94 424	GW 94 434
A	30	GW 94 522	GW 94 532	GW 94 522	GW 94 532	GW 94 522	GW 94 532
	300	GW 94 523	GW 94 533	GW 94 523	GW 94 533	GW 94 523	GW 94 533
	500	GW 94 524	GW 94 534	GW 94 524	GW 94 534	GW 94 524	GW 94 534
A[IR]	30	-	GW 94 586	-	GW 94 586	-	GW 94 586
A[S]	300	GW 94 583		GW 94 583		GW 94 583	

NOTES: the ReStart RmTOP 4P reset devices are also compatible with the MT and MT+BD (version 1P+N, 2P and 3P), and with the whole MTC range. The reset device must be supplied with 230V AC phase-neutral.

Unwired modular boards - string or parallel

The different versions (from 4 to 72 modules) of the range allow an endless choice of configurations to meet every protection and parallel need in small and large photovoltaic systems in the industrial, commercial and residential sectors.

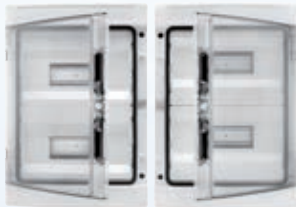


Available of already wired versions



MAXIMUM YIELD

- The operating voltage (U_i) - equal to 1000V dc allows the use of the latest types of inverter, guaranteeing the best output to maximise the productivity of the photovoltaic system.



EASY INSTALLATION

- The modularity and versatility of the installation solutions means single or battery boards can be created easily and cost-effectively.



MAXIMUM SAFETY

- Maximum safety is provided with high IP protection (IP65) and High impact resistance (IK09) Enclosures can also be easily adapted to facilitate lockable front cover, providing maximum security for continuous system operation.

Compact, unwired enclosures - string or parallel

Watertight, compact and robust, they're ideal for applications in the small-scale commercial or residential sector where space is often limited. The range includes user-friendly versions from 4 to 36 modules, and is suitable for creating numerous board configurations for both the DC and AC sides.



COMPACTNESS AND RESISTANCE

- Their compact nature means they're ideal for use in the limited spaces (for instance niches, openings or attics) typically found in commercial or residential applications where small or medium-sized photovoltaic systems are installed. The reliability of the application over time is constantly guaranteed by the watertight enclosure IP55 protection and high IK09 Impact resistance.



100% SAFE PERFORMANCE

- Tested for an operating voltage (Ui) of up to 1000V DC, they're ideal for creating string boards on the DC side, even in photovoltaic systems that use an inverter with a high energy yield; also suitable for small, cost-effective parallel boards. The doors are fitted with a triangular lock so that only authorised personnel may gain access.

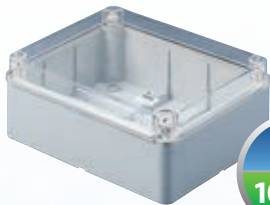
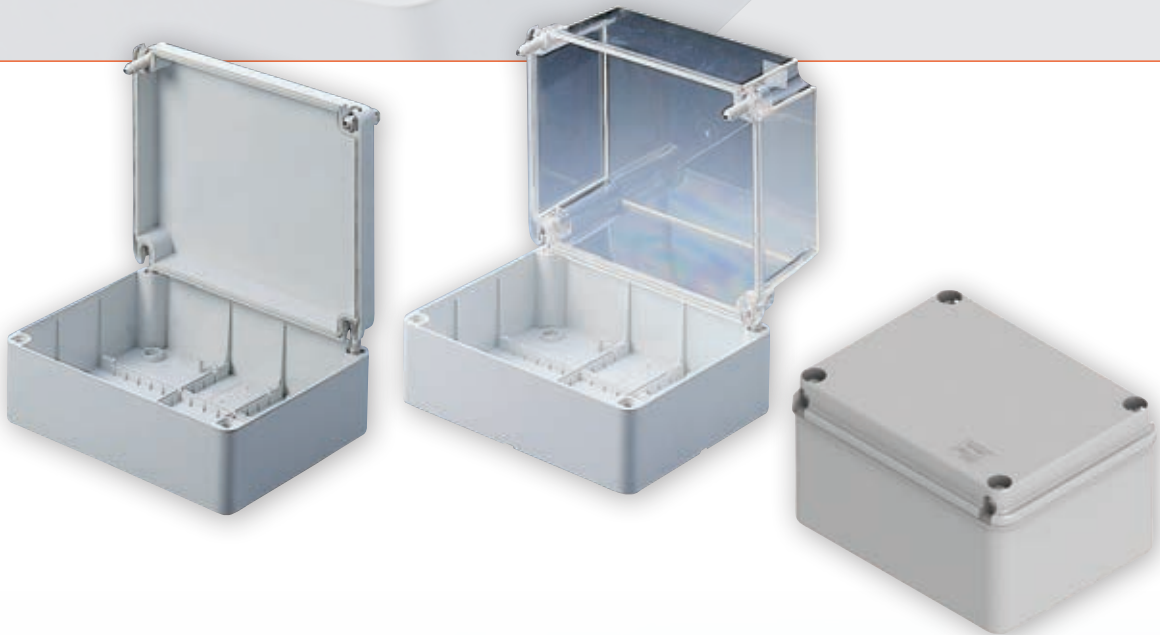


ACCESSIBILITY

- The horizontal and vertical walls of the back-mounting box have knockouts for the quick installation of conduit-box couplings or cable glands with a diameter up to 32mm. The special lowered profile allows the easy positioning and wiring of the devices installed.

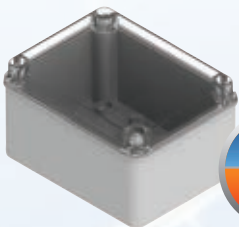
Empty junction and control boxes

Wide range of boxes in 3 different materials for top performance results and solutions. With a high degree of protection (IP56), there are versions with an ordinary or a high capacity bottom, lids that may be deep or plain, blank or transparent, and smooth walls. Tested for applications in the photovoltaic environment (from dimension 190x140mm), they're ideal for junctions and for containing electronic cards.



GWPLAST 120 - GWT650°C CONNECTIONS ALWAYS UNDER CONTROL

Thanks to their transparent lid (deep or plain) and highly thermal-resistant material, the GWPLAST 120 boxes are suitable for housing the special connection devices for photovoltaic applications that require the contents of the box (and the relative wiring) to be visible for checking purposes.



GWPLAST 75 - GWT650°C FOR DATA DEVICES AND BURGLAR ALARMS

With their special high bottom, the new high-capacity boxes are ideal for housing bulky devices like burglar alarms or control panels connected to sensors that require numerous I/O inputs for controlling the working status of the photovoltaic devices installed (temperature sensors and/or irradiation sensors).



GWPLAST 75 - GWT960°C EXCELLENT SELF-EXTINGUISHING PERFORMANCE

Boxes made of special technopolymers to guarantee a good self-extinguishing performance (in accordance with UL94:V0), to meet the specific requests of certain markets.

Unwired polyester boards - string or parallel

Made in six different sizes, they offer a modular capacity of up to 180 modules; there are versions with a blank or transparent door. The polyester material charged with glass fibre is halogen-free and makes the boxes ideal for use as string or parallel boards (even outdoors) in large systems in the commercial and industrial sector, or in photovoltaic systems.



Ui
1000V

BIG SPACE FOR BIG POWER

- The boards of the 46QP range have a high modular capacity and are type-approved for use with equipment with an insulation voltage (Ui) of 1000V AC. This means they're ideal for use in large photovoltaic "power stations" purposely designed to offer considerable peak power and sized for the use of an inverter with a high energy yield (operating voltages up to 1000V DC).



INSTALLATION ADVANTAGES

- The 46QP range includes a vast selection of accessories for creating numerous configurations to suit the application. In particular, the special pole support kits allow the boards to be positioned in the "barycentric" points of the photovoltaic power station. The safety locks with handle ensure that only specialised personnel may gain access.












Fast & Easy

TOP PERFORMANCE

- The excellent performance levels of the 46QP boards are based on the following strengths:
 - quick configuration, thanks to the F&E system consisting of metal elements with automatic clip assembly
 - high impact resistance (IK10), thanks to the monobloc box
 - watertight seal, guaranteed by the IP65 degree of protection


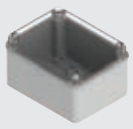
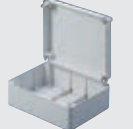

40 CDK AND 40 CD RANGE - UNWIRED ENCLOSURES AND BOARDS - STRING OR PARALLEL





SURFACE-MOUNTING ENCLOSURES								
TECHNICAL CHARACTERISTICS			40 CDK range - IP65		40 CD range - IP55			
Regulation:	IEC 60670-1; IEC 60670-24; CEI 23-48; CEI 23-49		Colour: Grey RAL 7035 Door: transparent, smokey grey Walls: smooth 		Colour: Grey RAL 7035 Door: transparent, smokey grey Walls: with perforation centres 			
Degree of protection:	40 CDK: IP65; 40 CD: IP 55							
Protection against indirect contacts:	double insulation (◊)							
Installation temperature:	max. +60°C; min. -25°C							
Rated voltage:	400V							
Rated insulation voltage:	1000V							
Rated current:	125A							
Material:	GW PLAST technopolymer, halogen-free in accordance with CEI EN50267-2-2							
Impact resistance:	IK 09, in accordance with EN 62262							
Heat resistance:	thermo-pressure with ball 70°C							
Resistance to abnormal heat and fire:	Glow wire test 650°C							
MODULES	2		-		-			
	4		GW 40 101		GW 40 001			
	6		-		-			
	8		GW 40 102		GW 40 003			
	12		GW 40 103		GW 40 005			
	18	with terminal block	-		GW 40 004			
	24 (12x2)	with terminal block	GW 40 104		GW 40 007			
	36 (12x3)	with terminal block	-		GW 40 006			
	36 (18x2)	with terminal block	GW 40 105		-			
	36 (18x2)	with terminal block	-		GW 40 009			
54 (18x3)		GW 40 108		-				
72 (18x4)		GW 40 109		-				
COMPLEMENTARY ITEMS	INSTALLATION	Surface-mounting fixing brackets for enclosures and boards			4 x GW 44 621			
		Stylish coupling covers for conduit and trunking entry			Modules	Code	-	
					12-24-36(12x3)	GW 40 473		
	WIRING	Terminal blocks with insulated neutral and earth bars (*)			Modules	Code	Modules	Code
					8	GW 40 401	8-24	GW 40 401
					12-24-36(12x3)	GW 40 402	12-36	GW 40 402
		Internal horizontal dividers			Modules	Code	-	
					24-36(12x3)	GW 40 487		
		1-module high blank cover panels			Modules	Code	-	
					36(18x2)-54-72	GW 40 488		
	MISCELLANEOUS	Cylindrical safety lock			Modules	Code		
					4-8-12-24-36(18x2)	1 x GW 40 422		
		Triangular key					1 x GW 40 421	

(◊) Complete insulation, in accordance with EN 61140, obtainable with screwcaps (GW 44 623) or resin fixing brackets (GW 44 621).

(*) For the number of terminal blocks that can be installed in each enclosure, refer to the GEWISS Trade Catalogue.



44 CE RANGE - EMPTY JUNCTION AND CONTROL BOXES

Material:	GW PLAST 75 technopolymer, halogen-free in accordance with CEI EN50267-2-2		GW PLAST 75 technopolymer	
Rated insulation voltage:	750V		750V	
Heat resistance:	Thermo-pressure with ball: 85°C		Thermo-pressure with ball: 85°C	
Fire resistance:	Glow Wire Test: 650°C - UL94: HB		Glow Wire Test: 960°C - UL94: V0	
Degree of protection:	IP56		IP56	
Regulation:	IEC 60670-1; IEC 60670-22; EN 60670-1; EN 60670-22; CEI EN 60670-1; CEI EN 60670-22		IEC 60670-1; IEC 60670-22; EN 60670-1; EN 60670-22; CEI EN 60670-1; CEI EN 60670-22	
Impact resistance:	IK 08, in accordance with EN 62262		IK 08, in accordance with EN 62262	
Protection against indirect contacts:	Double insulation (*)		Double insulation (*)	
Doors:	smooth		smooth	
Depth of back-mounting box:	high capacity		standard	
Lid:	blank, plain	transparent, plain	blank, plain	blank, deep
Dimensions (mm)				
190 x 140	GW 44 117	GW 44 137	GW 44 277	GW 44 257
240 x 190	GW 44 118	GW 44 138	GW 44 278	GW 44 258
300 x 220	GW 44 119	GW 44 139	GW 44 279	GW 44 259
380 x 300	GW 44 120	GW 44 140	GW 44 280	GW 44 260
460 x 380			GW 44 281	GW 44 261

Material:	GW PLAST 120 technopolymer, halogen-free in accordance with CEI EN50267-2-2			
Rated insulation voltage:	1000V			
Heat resistance:	Thermo-pressure with ball: 110°C			
Fire resistance:	Glow Wire Test: 650°C - UL94: HB			
Degree of protection:	IP56			
Regulation:	IEC 60670-1; IEC 60670-22; EN 60670-1; EN 60670-22; CEI EN 60670-1; CEI EN 60670-22			
Impact resistance:	IK 08, in accordance with EN 62262			
Protection against indirect contacts:	Double insulation (*)			
Doors:	smooth			
Depth of back-mounting box:	standard			
Lid:	blank, plain	blank, deep	transparent, plain	transparent, deep
Dimensions (mm)				
190 x 140	GW 44 407	GW 44 417	GW 44 427	GW 44 437
240 x 190	GW 44 408	GW 44 418	GW 44 428	GW 44 438
300 x 220	GW 44 409	GW 44 419	GW 44 429	GW 44 439
380 x 300	GW 44 410	GW 44 420	GW 44 430	GW 44 440
460 x 380	GW 44 411	GW 44 421	GW 44 431	GW 44 441

(*) Complete insulation, in accordance with EN 61140, obtainable with screwcaps (GW 44 622 or GW 44 623) or fixing brackets in an insulating material (GW 44 621).

46 QP RANGE - UNWIRED POLYESTER BOARDS - STRING OR PARALLEL

TECHNICAL CHARACTERISTICS					COMPLEMENTARY ITEMS		
Regulation:	IEC 61439-1 and IEC 61439-2, EN 61439-1 and EN 61439-2, CEI EN 61439-1 and CEI EN 61439-2, CEI 17-113 and CEI 17-114, EN 60439-1 and CEI 17-13/1, IEC 62208, EN 62208, CEI EN 62208, CEI 23-48 and CEI 23-49				FRONT CONFIGURATION		
Degree of protection:	IP65				PANELS 		
Protection against indirect contacts:	double insulation (*)						
Installation temperature:	max. +60°C; min. -25°C						
Maximum rated operating voltage (Ue):	690V						
Rated insulation voltage (Ui):	1000V (in both AC and DC)						
Material:	polyester reinforced with fibreglass, halogen-free in accordance with CEI 50267-2-2						
Impact resistance:	IK 10, in accordance with EN 62262						
Heat resistance:	thermo-pressure with ball 200°C						
Resistance to abnormal heat and fire:	Glow Wire Test 960°C (versions with blank door) Glow Wire Test 650°C (versions with windowed door)						
46 QP POLYESTER BOARD IP65 	BOX						With windows with DIN rail
	Dimensions (LxHxD) mm	Material	Code		No. modules EN 50022		
			BLANK door	Door with WINDOW			
	250x300x160	Polyester	GW 46 001	GW 46 201			
	310x425x160	Polyester	GW 46 002	GW 46 202	36 (12x3)	3 single panels - width 12 modules GW 46 420 F	GW 46 425 F
	405x500x200	Polyester	GW 46 003	GW 46 203	54 (18x3)	3 single panels - width 18 modules GW 46 421 F	GW 46 426 F
	405x650x200	Polyester	GW 46 004	GW 46 204	72 (18x4)	4 single panels - width 18 modules GW 46 421 F	GW 46 426 F
	515x650x250	Polyester	GW 46 005	GW 46 205	96 (24x4)	4 single panels - width 24 modules GW 46 422 F	GW 46 427 F
	585x800x300	Polyester	GW 46 006	GW 46 206	140 (28x5)	5 single panels - width 28 modules GW 46 423 F	GW 46 428 F
800x1060x350	Polyester	GW 46 007	GW 46 207	180 (36x5)	5 single panels - width 36 modules GW 46 424 F	GW 46 429 F	

(*) Complete insulation, in compliance with EN 61140, obtained by using fixing brackets GW 46 446 and GW 46 451.

COMPLEMENTARY ITEMS

FRONT CONFIGURATION				INTERNAL CONFIGURATION			SERVICE ACCESSORIES	
DOUBLE PANELS	INNER DOORS	UPRIGHTS	DIN RAILS	BACK-MOUNTING PLATES	PLATES		POLE SUPPORT	MISCELLANEOUS
	Material: insulating/ metal	Pair	single/ double	Material: metal/ steel (perforated)/ insulating	H 1 module: perforated/ solid	H 2 modules: perforated/ solid		
Blank				GW 46 401 GW 46 461 GW 46 408			GW 46 551	 Nut with clips GW 46 450
1 double panel 	GW 46 414 GW 46 564	GW 46 435 F	GW 46 430 F GW 46 530 F	GW 46 402 GW 46 462 GW 46 409	3 single plates 	1 double plate 	GW 46 552	 4 stainless steel brackets GW 46 451
1 double panel 	GW 46 415 GW 46 565	GW 46 436 F	GW 46 431 F GW 46 531 F	GW 46 403 GW 46 463 GW 46 410	3 single plates 	1 double plate 	GW 46 553	 Set of 4 galvanised brackets GW 46 446
1 double panel 	GW 46 415 GW 46 565	GW 46 436 F	GW 46 431 F GW 46 531 F	GW 46 403 GW 46 463 GW 46 410	3 single plates 	1 double plate 	GW 46 553	 Gasket for board coupling GW 46 449
2 double panels 	GW 46 416 GW 46 566	GW 46 437 F	GW 46 431 F GW 46 531 F	GW 46 404 GW 46 464 GW 46 411	4 single plates 	2 double plates 	GW 46 553	 Set of 4 squares for fixing back-mounting plate GW 46 521F
2 double panels 	GW 46 416 GW 46 566	GW 46 437 F	GW 46 431 F GW 46 531 F	GW 46 404 GW 46 464 GW 46 411	4 single plates 	2 double plates 	GW 46 553	 Safety lock with handle GW 46 445
2 double panels 	GW 46 417 GW 46 567	GW 46 437 F	GW 46 432 F GW 46 532 F	GW 46 405 GW 46 465 GW 46 412	4 single plates 	2 double plates 	GW 46 554	 Document-holder wallet GW 46 447
2 double panels 	GW 46 417 GW 46 567	GW 46 437 F	GW 46 432 F GW 46 532 F	GW 46 405 GW 46 465 GW 46 412	4 single plates 	2 double plates 	GW 46 554	 Ventilation kit IP 44 GW 46 448 and GW 46 471
2 double panels 	GW 46 418 GW 46 568	GW 46 438 F	GW 46 433 F GW 46 533 F	GW 46 406 GW 46 466 GW 46 413	5 single plates 	2 double plates 	GW 46 555	 Pair of brackets for wiring trunking GW 46 557F
2 double panels 	GW 46 418 GW 46 568	GW 46 438 F	GW 46 433 F GW 46 533 F	GW 46 406 GW 46 466 GW 46 413	5 single plates 	2 double plates 	GW 46 555	 Pair of handles for transportation GW 46 591
2 double panels 	GW 46 419 GW 46 569	GW 46 439 F	GW 46 434 F GW 46 534 F	GW 46 407 GW 46 467	5 single plates 	2 double plates 	GW 46 555	 Inserts kit GW 46 592 F
2 double panels 	GW 46 419 GW 46 569	GW 46 439 F	GW 46 434 F GW 46 534 F	GW 46 407 GW 46 467	5 single plates 	2 double plates 	GW 46 555	 Pair of handles for transportation GW 46 591

Cable trays for transporting field cables

A complete system of wire metal cable trays in perforated sheet metal with bracket-fixing systems. Ideal for applications in the photovoltaic, commercial and industrial sectors: the wide range of sizes, capacities and surface finishes means you can choose the most suitable product for every requirement, from small installations to large industrial systems.



WIRE CABLE TRAY - BFR RANGE

- The range includes 3 heights (30, 60 and 110mm) and 8 widths (from 50 to 600mm). The possibility to hold all straight components, the special clip brackets and the quick, automatic joints make BFR the simplest and fastest metal cable-holder system for every type of installation. Available with various finishes: galvanised steel Z275 and GAC, electro-galvanised, HP and stainless steel (with epoxy varnish upon request).

For applications in the photovoltaic context, the HP finish is recommended.



PERFORATED SHEET METAL CABLE TRAY - BRN RANGE

- The range includes 4 heights (35, 50 65 and 80mm) and 12 widths (from 95 to 605mm). The BRN cable tray has ribs on the back (for greater resistance to loads), interlocking coupling between the channel and straight elements, and a rounded upper edge to guarantee 100% safety for both the cables and the workers. Available with galvanised steel Z275 and GAC finishes (with epoxy varnish upon request).

For applications in the photovoltaic context, the GAC finish is recommended.



CABLE TRAY FIXING SYSTEMS - SP RANGE

- The SP range contains 3 types of support (for light, medium and heavy loads) that allow to fix every type of GEWISS cable tray to the wall or ceiling. The system uses quick-connection brackets for fixing the BFR wire cable tray quickly without the need for nuts and bolts. Available with galvanised steel Z275 and GAC finishes (with epoxy varnish upon request).

For applications in the photovoltaic context, the GAC finish is recommended.

Wire cable tray - BFR with new HP finish

The HP (High Protection) finish is the innovative surface treatment for wire cable trays created exclusively by GEWISS. The metal is protected by the combined effect of zinc and aluminium, providing dual protection - active (the zinc acts as a sacrificial anode, oxidising before the zinc) and passive (the aluminium oxide creates a protective film that's highly resistant to corrosion).

The combined effect of the active and passive protection

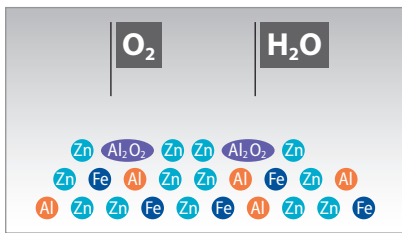


Figure 1

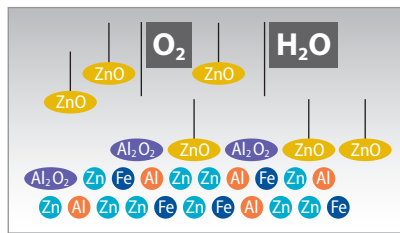


Figure 2

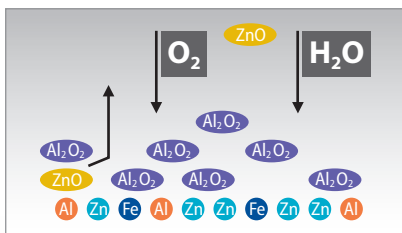


Figure 4

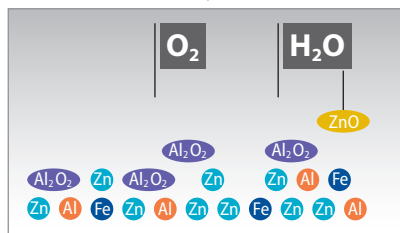


Figure 3



IDEAL FOR PHOTOVOLTAIC INSTALLATIONS

- The HP finish ensures full resistance to corrosion, even with highly aggressive chemical substances and atmospheric agents; this translates into excellent resistance in highly polluted urban and industrial areas.

The BFR cable trays with HP finish are subjected to the following tests:

- salty fog, in accordance with EN ISO 9227 and EN 60068-11
- environments containing sulphur dioxide, in accordance with DIN 50018



LONGER LIFESPAN



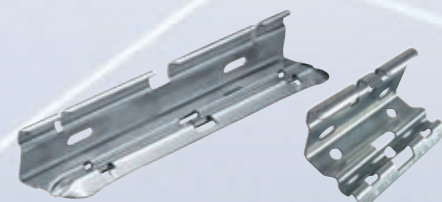
SAVINGS OF 15%

PERFORMANCE AND SAVINGS

- Laboratory tests have highlighted that the working life of cable trays with an HP finish is up to 4 times greater compared with hot galvanisation by immersion (GAC).

The creation of a system using the HP finish brings average savings of 15% compared with GAC.

AUTOMATIC QUICK COUPLERS - HP



- In the photovoltaic fields, many kilometres of cable trays are laid: the use of the automatic quick coupler - suitable for all cable tray sizes - and the automatic quick compact coupler reduces installation times by up to 70%, leading to considerable economic savings as well.

BFR RANGE - WIRE CABLE TRAYS

Cable tray dimensions LxH (mm)	CABLE TRAYS			FINISHING ACCESSORIES			
	Straight elements			Cover		Divider	
	GAC	HP	STAINLESS STEEL	GAC	STAINLESS STEEL	GAC	STAINLESS STEEL
50x30	MV 50 220	MV 50 720	MV 50 620	MV 50 250	MV 50 650	MV 65 210	MV 65 610
100x30	MV 50 221	MV50721	MV 50 621	MV 50 251	MV 50 651	MV 65 210	MV 65 610
150x30	MV 50 222	MV 50 722	MV 50 622	MV 50 252	MV 50 652	MV 65 210	MV 65 610
200x30	MV 50 223	MV 50 723	MV 50 623	MV 50 253	MV 50 653	MV 65 210	MV 65 610
300x30	MV 50 225	MV 50 725	MV 50 625	MV 50 255	MV 50 655	MV 65 210	MV 65 610
50x60	MV 50 230	MV 50 730	MV 50 630	MV 50 250	MV 50 650	MV 65 211	MV 65 611
100x60	MV 50 231	MV 50 731	MV 50 631	MV 50 251	MV 50 651	MV 65 211	MV 65 611
150x60	MV 50 232	MV 50 732	MV 50 632	MV 50 252	MV 50 652	MV 65 211	MV 65 611
200x60	MV 50 233	MV 50 733	MV 50 633	MV 50 253	MV 50 653	MV 65 211	MV 65 611
300x60	MV 50 235	MV 50 735	MV 50 635	MV 50 255	MV 50 655	MV 65 211	MV 65 611
400x60	MV 50 236	MV 50 736	MV 50 636	MV 50 256	MV 50 656	MV 65 211	MV 65 611
500x60	MV 50 237	MV 50 737	MV 50 637	MV 50 257	MV 50 657	MV 65 211	MV 65 611
600x60	MV 50 238	MV 50 738	MV 50 638	MV 50 258	MV 50 658	MV 65 211	MV 65 611
150 x 110	MV 50 242	MV 50 742	MV 50 642	MV 50 252	MV 50 652	MV 65 213	MV 65 613
200x110	MV 50 243	MV 50 743	MV 50 643	MV 50 253	MV 50 653	MV 65 213	MV 65 613
300x110	MV 50 245	MV 50 745	MV 50 645	MV 50 255	MV 50 655	MV 65 213	MV 65 613
400x110	MV 50 246	MV 50 746	MV 50 646	MV 50 256	MV 50 656	MV 65 213	MV 65 613
500x110	MV 50 247	MV 50 747	MV 50 647	MV 50 257	MV 50 657	MV 65 213	MV 65 613
600x110	MV 50 248	MV 50 748	MV 50 648	MV 50 258	MV 50 658	MV 65 213	MV 65 613
CUTTING AND BENDING EQUIPMENT FOR BFR WIRE CABLE TRAY	Shears with asymmetric blades			Earth terminal			
	 MV 51 904			 MV 51 946			
ACCESSORIES	Automatic Speedycurve		Spare blades		Identification plate		
	 MV 51 943		 MV 51 945		 MV 51 947		




NOTE: for the article also available with a stainless steel 316L finish, refer to the Trade Catalogue 2012.

COUPLING SYSTEMS

Quick, compact, automatic connection		Universal speed-lock coupler			Straight coupler with bolts		Coupler with bolts					
GAC	HP	GAC	HP	STAINLESS STEEL	GAC	STAINLESS STEEL	DACRO			STAINLESS STEEL		
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810			MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810			MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810			MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810			MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 214	MV 51 714	MV 51 210	MV 51 710	MV 51 810			MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 213	MV 51 713	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 214	MV 51 714	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 214	MV 51 714	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 214	MV 51 714	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821
MV 51 215	MV 51 715	MV 51 210	MV 51 710	MV 51 810	MV 51 223 MV 51 222	MV 51 823 MV 51 822	MV 66 203	MV 51 220	MV 51 221	MV 66 820	MV 51 820	MV 51 821

NOTE: for the article also available with a stainless steel 316L finish, refer to the Trade Catalogue 2012.

BFR RANGE - WIRE CABLE TRAYS

Cable tray dimensions LxH (mm)	FIXING ACCESSORIES		FIXING AND SUSPENSION ACCESSORIES		
	External support for rigid pipes/junction boxes		Wall-mounting bracket/junction box support	Suspension support	
					
	GAC	STAINLESS STEEL	GAC	GAC	STAINLESS STEEL
50x30	MV 51 201	MV 51 601		MV 64 261	MV 64 661
100x30	MV 51 201	MV 51 601		MV 64 261	MV 64 661
150x30	MV 51 201	MV 51 601			
200x30	MV 51 201	MV 51 601			
300x30	MV 51 201	MV 51 601			
50x60	MV 51 201	MV 51 601	MV 51 203	MV 64 261	MV 64 661
100x60	MV 51 201	MV 51 601	MV 51 203	MV 64 261	MV 64 661
150x60	MV 51 201	MV 51 601	MV 51 203		
200x60	MV 51 201	MV 51 601	MV 51 203		
300x60	MV 51 201	MV 51 601	MV 51 203		
400x60	MV 51 201	MV 51 601	MV 51 203		
500x60	MV 51 201	MV 51 601	MV 51 203		
600x60	MV 51 201	MV 51 601	MV 51 203		
150 x 110	MV 51 201	MV 51 601	MV 51 203		
200x110	MV 51 201	MV 51 601	MV 51 203		
300x110	MV 51 201	MV 51 601	MV 51 203		
400x110	MV 51 201	MV 51 601	MV 51 203		
500x110	MV 51 201	MV 51 601	MV 51 203		
600x110	MV 51 201	MV 51 601	MV 51 203		

NOTE: for the article also available with a stainless steel 316L finish, refer to the Trade Catalogue 2011.

FIXING AND SUSPENSION ACCESSORIES

*Universal coupling		AISI 304 stainless steel support	** Suspension hanger		*** Plate for central suspension	
GAC	STAINLESS STEEL	STAINLESS STEEL	GAC	STAINLESS STEEL	DACRO	STAINLESS STEEL
MV 51 230	MV 51 630	MV 64 670	MV 51 205	MV 51 605		
MV 51 230	MV 51 630	MV 64 670	MV 51 205	MV 51 605	MV 51 202	MV 51 602
MV 51 231	MV 51 631	MV 64 671	MV 51 205	MV 51 605		
MV 51 232	MV 51 632	MV 64 671	MV 51 205	MV 51 605		
MV 51 233	MV 51 633	MV 64 672	MV 51 205	MV 51 605		
MV 51 230	MV 51 630	MV 64 670	MV 51 205	MV 51 605		
MV 51 230	MV 51 630	MV 64 670	MV 51 205	MV 51 605	MV 51 202	MV 51 602
MV 51 231	MV 51 631	MV 64 671	MV 51 205	MV 51 605		
MV 51 232	MV 51 632	MV 64 671	MV 51 205	MV 51 605		
MV 51 233	MV 51 633	MV 64 672	MV 51 205	MV 51 605		
MV 51 234	MV 51 634	MV 64 673	MV 51 205	MV 51 605		
MV 51 235	MV 51 635	MV 64 674	MV 51 205	MV 51 605		
MV 51 236	MV 51 639		MV 51 205	MV 51 605		
MV 51 231	MV 51 631	MV 64 671	MV 51 205	MV 51 605		
MV 51 232	MV 51 632	MV 64 671	MV 51 205	MV 51 605		
MV 51 233	MV 51 633	MV 64 672	MV 51 205	MV 51 605		
MV 51 234	MV 51 634	MV 64 673	MV 51 205	MV 51 605		
MV 51 235	MV 51 635	MV 64 674	MV 51 205	MV 51 605		
MV 51 236	MV 51 639		MV 51 205	MV 51 605		

* For suspended use, choose the next size up and use two $\varnothing 6$ or $\varnothing 10$ threaded bars
 ** Use a $\varnothing 8$ threaded bar and a safety rivet (code MV 51 086)
 *** Use two plates and one $\varnothing 6$ threaded bar for suspension
 NOTE: for the article also available with a stainless steel 316L finish, refer to the Trade Catalogue 2011.

BRN RANGE - PERFORATED SHEET METAL CABLE TRAYS

Cable tray dimensions LxH (mm)	CABLE TRAYS			JOINTS FOR BRN BASES	DIVIDER	JOINTS
	Channel	Cover	Clip for cover			Automatic speed-lock
Dimensions	GAC	GAC	STAINLESS STEEL	GAC	GAC	GAC
65x35	MV 40 200	MV 40 280	MV 41 601		MV 65 210	MV 41 212
95x35	MV 40 201	MV 40 281	MV 41 601		MV 65 210	MV 41 212
125x35	MV 40 202	MV 40 282	MV 41 601		MV 65 210	MV 41 212
155x35	MV 40 203	MV 40 283	MV 41 601		MV 65 210	MV 41 212
185x35	MV 40 204	MV 40 284	MV 41 601		MV 65 210	MV 41 212
215x35	MV 40 205	MV 40 285	MV 41 601		MV 65 210	MV 41 212
245x35	MV 40 206	MV 40 286	MV 41 601		MV 65 210	MV 41 212
305x35	MV 40 208	MV 40 288	MV 41 601		MV 65 210	MV 41 212
365x35	MV 40 210	MV 40 290	MV 41 601		MV 65 210	MV 41 212
395x35	MV 40 211	MV 40 291	MV 41 601	MV 48 251	MV 65 210	MV 41 212
65x50	MV 40 220	MV 40 280	MV 41 602		MV 65 211	MV 41 213
95x50	MV 40 221	MV 40 281	MV 41 602		MV 65 211	MV 41 213
125x50	MV 40 222	MV 40 282	MV 41 602		MV 65 211	MV 41 213
155x50	MV 40 223	MV 40 283	MV 41 602		MV 65 211	MV 41 213
185x50	MV 40 224	MV 40 284	MV 41 602		MV 65 211	MV 41 213
215x50	MV 40 225	MV 40 285	MV 41 602		MV 65 211	MV 41 213
245x50	MV 40 226	MV 40 286	MV 41 602		MV 65 211	MV 41 213
305x50	MV 40 228	MV 40 288	MV 41 602		MV 65 211	MV 41 213
365x50	MV 40 230	MV 40 290	MV 41 602		MV 65 211	MV 41 213
395x50	MV 40 231	MV 40 291	MV 41 602	MV 48 251	MV 65 211	MV 41 213
515x50	MV 40 235	MV 40 295	MV 41 602	MV 48 255	MV 65 211	MV 41 213
95x65	MV 40 241	MV 40 281	MV 41 603		MV 65 212	
215x65	MV 40 245	MV 40 285	MV 41 603		MV 65 212	
305x65	MV 40 248	MV 40 288	MV 41 603		MV 65 212	
395x65	MV 40 251	MV 40 291	MV 41 603	MV 48 251	MV 65 212	
515x65	MV 40 255	MV 40 295	MV 41 603	MV 48 255	MV 65 212	
605x65	MV 40 257	MV 40 297	MV 41 603	MV 48 257	MV 65 212	
125x80	MV 40 262	MV 40 282	MV 41 602		MV 65 213	
215x80	MV 40 265	MV 40 285	MV 41 602		MV 65 213	
305x80	MV 40 268	MV 40 288	MV 41 602		MV 65 213	
395x80	MV 40 271	MV 40 291	MV 41 602	MV 48 251	MV 65 213	
515x80	MV 40 275	MV 40 295	MV 41 602	MV 48 255	MV 65 213	
605x80	MV 40 277	MV 40 297	MV 41 602	MV 48 257	MV 65 213	
ACCESSORIES (BOLTS)						
Bolt M6x10 + nut		Bolt M6x14 + nut		Bolt M6x20 + nut		
						
Bichro	Dachro	Bichro	Dachro	Bichro	Dachro	
MV 66 100	MV 66 200	MV 66 101	MV 66 201	MV 66 403	MV 66 203	

JOINTS		ROUTING COMPONENTS			
		HORIZONTAL			
Straight with bolts	Rigid with bolts**	90° bend	Cover for 90° bend	45° bend	Lid for 45° bend
GAC	GAC	GAC	GAC	GAC	GAC
MV 41 222	MV 41 222	MV 42 200	MV 42 280	MV 43 200	MV 43 280
MV 41 222	MV 41 222	MV 42 201	MV 42 281	MV 43 201	MV 43 281
MV 41 222	MV 41 222	MV 42 202	MV 42 282	MV 43 202	MV 43 282
MV 41 222	MV 41 222	MV 42 203	MV 42 283	MV 43 203	MV 43 283
MV 41 222	MV 41 222	MV 42 204	MV 42 284	MV 43 204	MV 43 284
MV 41 222	MV 41 222	MV 42 205	MV 42 285	MV 43 205	MV 43 285
MV 41 222	MV 41 222	MV 42 206	MV 42 286	MV 43 206	MV 43 286
MV 41 222	MV 41 222	MV 42 208	MV 42 288	MV 43 208	MV 43 288
MV 41 222	MV 41 222	MV 42 210	MV 42 290	MV 43 210	MV 43 290
MV 41 222	MV 41 222	MV 42 211	MV 42 291	MV 43 211	MV 43 291
MV 41 222	MV 41 222	MV 42 220	MV 42 280	MV 43 220	MV 43 280
MV 41 222	MV 41 222	MV 42 221	MV 42 281	MV 43 221	MV 43 281
MV 41 222	MV 41 222	MV 42 222	MV 42 282	MV 43 222	MV 43 282
MV 41 222	MV 41 222	MV 42 223	MV 42 283	MV 43 223	MV 43 283
MV 41 222	MV 41 222	MV 42 224	MV 42 284	MV 43 224	MV 43 284
MV 41 222	MV 41 222	MV 42 225	MV 42 285	MV 43 225	MV 43 285
MV 41 222	MV 41 222	MV 42 226	MV 42 286	MV 43 226	MV 43 286
MV 41 222	MV 41 222	MV 42 228	MV 42 288	MV 43 228	MV 43 288
MV 41 222	MV 41 222	MV 42 230	MV 42 290	MV 43 230	MV 43 290
MV 41 222	MV 41 222	MV 42 231	MV 42 291	MV 43 231	MV 43 291
MV 41 222	MV 41 222	MV 42 235	MV 42 295	MV 43 235	MV 43 295
MV 41 223	MV 41 240	MV 42 241	MV 42 281	MV 43 241	MV 43 281
MV 41 223	MV 41 240	MV 42 245	MV 42 285	MV 43 245	MV 43 285
MV 41 223	MV 41 240	MV 42 248	MV 42 288	MV 43 248	MV 43 288
MV 41 223	MV 41 240	MV 42 251	MV 42 291	MV 43 251	MV 43 291
MV 41 223	MV 41 240	MV 42 255	MV 42 295	MV 43 255	MV 43 295
MV 41 223	MV 41 240	MV 42 257	MV 42 297	MV 43 257	MV 43 297
MV 41 223	MV 41 240	MV 42 262	MV 42 282	MV 43 262	MV 43 282
MV 41 223	MV 41 240	MV 42 265	MV 42 285	MV 43 265	MV 43 285
MV 41 223	MV 41 240	MV 42 268	MV 42 288	MV 43 268	MV 43 288
MV 41 223	MV 41 240	MV 42 271	MV 42 291	MV 43 271	MV 43 291
MV 41 223	MV 41 240	MV 42 275	MV 42 295	MV 43 275	MV 43 295
MV 41 223	MV 41 240	MV 42 277	MV 42 297	MV 43 277	MV 43 297

** Use with MV 66 100 bolt..

BRN RANGE - PERFORATED SHEET METAL CABLE TRAYS







Cable tray dimensions LxH (mm)	ROUTING COMPONENTS					
	HORIZONTAL					
	T-junction	Cover for T-junction	Horizontal cross	Cover for horizontal cross	Side output	Cover for side output
Dimensions	GAC	GAC	GAC	GAC	GAC	GAC
65x35	MV 46 200	MV 46 280	MV 47 200	MV 47 280	MV 49 200	MV 49 280
95x35	MV 46 201	MV 46 281	MV 47 201	MV 47 281	MV 49 201	MV 49 281
125x35	MV 46 202	MV 46 282	MV 47 202	MV 47 282	MV 49 202	MV 49 282
155x35	MV 46 203	MV 46 283	MV 47 203	MV 47 283	MV 49 203	MV 49 283
185x35	MV 46 204	MV 46 284	MV 47 204	MV 47 284	MV 49 204	MV 49 284
215x35	MV 46 205	MV 46 285	MV 47 205	MV 47 285	MV 49 205	MV 49 285
245x35	MV 46 206	MV 46 286	MV 47 206	MV 47 286	MV 49 206	MV 49 286
305x35	MV 46 208	MV 46 288	MV 47 208	MV 47 288	MV 49 208	MV 49 288
365x35	MV 46 210	MV 46 290	MV 47 210	MV 47 290	MV 49 210	MV 49 290
395x35	MV 46 211	MV 46 291	MV 47 211	MV 47 291	MV 49 211	MV 49 291
65x50	MV 46 220	MV 46 280	MV 47 220	MV 47 280	MV 49 220	MV 49 280
95x50	MV 46 221	MV 46 281	MV 47 221	MV 47 281	MV 49 221	MV 49 281
125x50	MV 46 222	MV 46 282	MV 47 222	MV 47 282	MV 49 222	MV 49 282
155x50	MV 46 223	MV 46 283	MV 47 223	MV 47 283	MV 49 223	MV 49 283
185x50	MV 46 224	MV 46 284	MV 47 224	MV 47 284	MV 49 224	MV 49 284
215x50	MV 46 225	MV 46 285	MV 47 225	MV 47 285	MV 49 225	MV 49 285
245x50	MV 46 226	MV 46 286	MV 47 226	MV 47 286	MV 49 226	MV 49 286
305x50	MV 46 228	MV 46 288	MV 47 228	MV 47 288	MV 49 228	MV 49 288
365x50	MV 46 230	MV 46 290	MV 47 230	MV 47 290	MV 49 230	MV 49 290
395x50	MV 46 231	MV 46 291	MV 47 231	MV 47 291	MV 49 231	MV 49 291
515x50	MV 46 235	MV 46 295	MV 47 235	MV 47 295	MV 49 235	MV 49 295
95x65	MV 46 241	MV 46 281	MV 47 241	MV 47 281	MV 49 241	MV 49 281
215x65	MV 46 245	MV 46 285	MV 47 245	MV 47 285	MV 49 245	MV 49 285
305x65	MV 46 248	MV 46 288	MV 47 248	MV 47 288	MV 49 248	MV 49 288
395x65	MV 46 251	MV 46 291	MV 47 251	MV 47 291	MV 49 251	MV 49 291
515x65	MV 46 255	MV 46 295	MV 47 255	MV 47 295	MV 49 255	MV 49 295
605x65	MV 46 257	MV 46 297	MV 47 257	MV 47 297	MV 49 257	MV 49 297
125x80	MV 46 262	MV 46 282	MV 47 262	MV 47 282	MV 49 262	MV 49 282
215x80	MV 46 265	MV 46 285	MV 47 265	MV 47 285	MV 49 265	MV 49 285
305x80	MV 46 268	MV 46 288	MV 47 268	MV 47 288	MV 49 268	MV 49 288
395x80	MV 46 271	MV 46 291	MV 47 271	MV 47 291	MV 49 271	MV 49 291
515x80	MV 46 275	MV 46 295	MV 47 275	MV 47 295	MV 49 275	MV 49 295
605x80	MV 46 277	MV 46 297	MV 47 277	MV 47 297	MV 49 277	MV 49 297

ROUTING COMPONENTS

VERTICAL

Upward bend	Cover for upward bend	Downward bend	Cover for downward bend
GAC	HP	GAC	GAC
MV 44 200	MV 24 200	MV 45 200	MV 25 200
MV 44 201	MV 24 201	MV 45 201	MV 25 201
MV 44 202	MV 24 202	MV 45 202	MV 25 202
MV 44 203	MV 24 203	MV 45 203	MV 25 203
MV 44 204	MV 24 204	MV 45 204	MV 25 204
MV 44 205	MV 24 205	MV 45 205	MV 25 205
MV 44 206	MV 24 206	MV 45 206	MV 25 206
MV 44 208	MV 24 208	MV 45 208	MV 25 208
MV 44 210	MV 24 210	MV 45 210	MV 25 210
MV 44 211	MV 24 211	MV 45 211	MV 25 211
MV 44 220	MV 24 220	MV 45 220	MV 25 220
MV 44 221	MV 24 221	MV 45 221	MV 25 221
MV 44 222	MV 24 222	MV 45 222	MV 25 222
MV 44 223	MV 24 223	MV 45 223	MV 25 223
MV 44 224	MV 24 224	MV 45 224	MV 25 224
MV 44 225	MV 24 225	MV 45 225	MV 25 225
MV 44 226	MV 24 226	MV 45 226	MV 25 226
MV 44 228	MV 24 228	MV 45 228	MV 25 228
MV 44 230	MV 24 230	MV 45 230	MV 25 230
MV 44 231	MV 24 231	MV 45 231	MV 25 231
MV 44 235	MV 24 235	MV 45 235	MV 25 235
MV 44 241	MV 24 241	MV 45 241	MV 25 241
MV 44 245	MV 24 245	MV 45 245	MV 25 245
MV 44 248	MV 24 248	MV 45 248	MV 25 248
MV 44 251	MV 24 251	MV 45 251	MV 25 251
MV 44 255	MV 24 255	MV 45 255	MV 25 255
MV 44 257	MV 24 257	MV 45 257	MV 25 257
MV 44 262	MV 24 262	MV 45 262	MV 25 262
MV 44 265	MV 24 265	MV 45 265	MV 25 265
MV 44 268	MV 24 268	MV 45 268	MV 25 268
MV 44 271	MV 24 271	MV 45 271	MV 25 271
MV 44 275	MV 24 275	MV 45 275	MV 25 275
MV 44 277	MV 24 277	MV 45 277	MV 25 277

SP RANGE - CABLE TRAY SUPPORT SYSTEMS

SYSTEM FOR LIGHT LOADS				
	OMEGA RANGE			
	Description	Length (mm)	GAC	
UPRIGHT WITH CEILING COUPLING	 OMEGA-type support	410	MV 62 200	
		510	MV 62 201	
		610	MV 62 202	
BRACKETS	 OMEGA-type surface-mounting bracket	110	MV 60 200	
		210	MV 60 201	
		310	MV 60 202	
		410	MV 60 213	
		510	MV 60 214	
		610	MV 60 215	
ACCESSORIES	 Quick BFR "FILMATIC" fixing		HP finish: MV 51 700 Stainless steel finish: MV 51 800	
	 OMEGA support/bracket fixing plate	BICHRO	MV 64 401	
	 TRCC bolts for OMEGA support	M10 X 30	BICHRO	MV 66 122
M10 X 60		MV 66 123		MV 66 223
SINGLE ELEMENT (COUPLING + UPRIGHT + BRACKET)	"C" OMEGA-TYPE RANGE			
	Description	Height (mm)	Length (mm)	GAC
	 "C" OMEGA-type system	115	95	MV 62 210
			195	MV 62 211
			265	MV 62 212
		215	95	MV 62 213
			195	MV 62 214
			265	MV 62 215
		265	95	MV 62 216
			195	MV 62 217
			265	MV 62 218

SYSTEM FOR HEAVY LOADS				
	MAVISTRUT-TYPE RANGE			
	Description	Length (mm)	GAC	
CEILING COUPLING	 MAVISTRUT support with welded plate 41 x 29	single 390	MV 63 201	
		double 390	MV 63 205	
		single 630	MV 63 203	
		double 630	MV 63 207	
	 MAVISTRUT support with welded plate 41 x 41	single 550	MV 63 240	
		double 550	MV 63 245	
		single 790	MV 63 210	
		double 790	MV 63 214	
		single 1030	MV 63 211	
		double 1030	MV 63 215	
		single 1510	MV 63 213	
		double 1510	MV 63 217	
 MAVISTRUT support bolted flange	single 41 x 41	MV 64 240		
	counter-flange	MV 64 241		
	bolted 41 x 29	MV 64 230		
UPRIGHTS	 MAVISTRUT toothed profile	41 x 29 x 240	MV 65 280	
		41 x 29 x 1030	MV 65 271	
		41 x 29 x 1990	MV 65 272	
		41 x 29 x 3030	MV 65 273	
		41 x 41 x 1030	MV 65 274	
		41 x 41 x 1990	MV 65 275	
		41 x 41 x 3030	MV 65 276	
		145	MV 61 200	
		245	MV 61 201	
		345	MV 61 202	
BRACKETS	 MAVISTRUT quick coupling bracket ⁽¹⁾	445	MV 61 203	
		545	MV 61 204	
		595	MV 61 205	
		645	MV 61 206	
		100	MV 61 290	
		200	MV 61 292	
	Wall brackets	300	MV 61 294	
		400	MV 61 295	
		500	MV 61 296	
		600	MV 61 297	
		Bracket with flat tang 41 x 29	150	MV 61 231
			200	MV 61 232
	300		MV 61 233	
	400		MV 61 234	
	Bracket with flat tang 41 x 41		150	MV 61 241
			200	MV 61 242
		300	MV 61 243	
		400	MV 61 244	
500		MV 61 245		
600		MV 61 246		

⁽¹⁾ For Mavistrut brackets measuring more than 345mm, use 41x41 profiles.

Note: the Omega range is also available in stainless steel (replace the third figure of the code with the number 6, e.g. MV 62 100 -> MV 62 600)

SURFACE TREATMENTS FOR CABLE TRAYS AND SUPPORTS

Apart from the surface treatments indicated for installations in the photovoltaic context, the **GEWISS range also includes numerous other surface treatments so you can choose the most suitable product (in terms of corrosion resistance) for the installation area in question.**

SURFACE TREATMENTS

Type	Reference Standards	Description
Z 100	NF A 91-131	CONTINUOUS HOT-DIP GALVANISATION OF THE WIRE BEFORE MANUFACTURING The galvanisation is carried out by hot-dipping the wire in a molten zinc bath at 450-460°C. The Z 100 current quality corresponds to a coating thickness of 15-20 microns (i.e. a zinc mass of at least 100g/m ²). The salt spray fog tests performed by LNE confirm the excellent protection of the welded points against corrosion, due to the cathode phenomenon. Regular cleaning of the welded points ensures a good appearance.
Z 275	EN 10346	CONTINUOUS HOT-DIP GALVANISATION OF THE SHEET METAL BEFORE MANUFACTURING The sheet metal galvanisation is carried out by hot-dipping a pre-treated sheet of steel in a molten zinc bath at 450-460°C. The surface appearance of the Z 275 finish is due to the natural crystallisation of the zinc. The Z 275 current quality corresponds to a coating thickness of 21 microns (i.e. a zinc mass of at least 275g/m ² on both sides).
EZ	EN ISO 2081	ELECTROLYTIC GALVANISATION AFTER MANUFACTURING The BFR cable tray is protected using the following procedure: the zinc coating is applied to the steel by electrolysis after the wires have been bent and evenly welded on the whole cable tray. The average coating thickness is 15-20 microns. The finish is glossy and shiny.
GAC	EN ISO 1461	HOT-DIP GALVANISATION AFTER MANUFACTURING This procedure involves hot-dipping the manufactured product in a molten zinc bath at about 450°C. The average zinc mass is 335g/m ² on both sides, corresponding to a coating thickness of about 50 microns (varying according to the thickness of the sheet). This surface treatment is recommended in damp and corrosive environments. The possible appearance of white stains - due to the formation of zinc carbonate hydroxide - does not affect the resistance to corrosion. Corrosion resistance in accordance with EN ISO 10289. The finish is matt.
HP	EN10244 - 2	HP - HIGH PROTECTION The HP finish protects the metal with the combined effect of two components: zinc (95%) and aluminium (5%). The simultaneous action of the two elements provides the metal with an active protection (zinc oxide) and a passive one (aluminium oxide) against atmospheric and corrosive agents. The HP finish is recommended in particularly heavy duty conditions (tunnels, the petrochemical industry, marine environments).
BICHRO	NF A 91-472 ISO 2081	BICHROMATE ELECTRO-GALVANISATION The electrolytic coating of chrome-plated zinc gives the finished product a golden tint. This surface treatment is used for certain accessories as it offers better corrosion resistance than electrolytic galvanisation.
DACRO		ZINC/ALUMINIUM METAL COATING Dacromet is a non-electrolytic metal coating. It consists of zinc and aluminium in a chromium oxide alloy. With a coating thickness of 5 microns, this intrinsic passivation offers a protection of 500 hours against sea spray mist.
EPOXY		EPOXY-POLYESTER POWDER PAINT COATING (EPOXY) Thanks to a painting station integrated in the production line, GEWISS can supply the cable tray in galvanised steel, plus the accessories coated with an epoxy resin and polyester-based powder paint. The coating is applied with an automatic electrostatic spray paint gun, after pre-treating the products and the relevant surfaces. M1 Fire Class. Corrosion resistance in accordance with EN ISO 9227 Salt Spray Fog. Standard colours - red RAL 3020 and grey RAL 7030; other colours available upon request (see RAL colour chart).

CHOOSING THE SURFACE TREATMENT ON THE BASIS OF THE INSTALLATION AREA

Environment	Galvanised Z 100 - Z 275	Electro-galvanised EZ	Galvanised GAC	Epoxy painting on Z 100 - Z 275	High Protection HP	AISI 304 L stainless steel	AISI 316 L stainless steel
Indoor installation in normal environments	●	●	●	●	●	●	●
Outdoor installation in normal environments	●	●	●	●	●	●	●
Marine environment	●	●	●	●	●	●	●
Alkaline environment	●	●	●	●	●	●	●
Acid environment	●	●	●	●	●	●	●
Chemical and petrochemical industries	●	●	●	●	●	●	●
Food production environment	●	●	●	●	●	●	●
Tunnels	●	●	●	●	●	●	●

● Excellent ● Good ● Possible ● Not recommended



DOMOTICS ENERGY LIGHTING

GEWISS S.p.A. Registered Office: Via A. Volta, 1 - 24069 CENATE SOTTO (Bergamo) - Italy

Tel. +39 035 946 111 - Fax +39 035 945 222 - gewiss@gewiss.com - www.gewiss.com

Sole-Member Company - Bergamo Register of Companies / VAT reg. number / Tax code (IT) 00385040167 -

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