

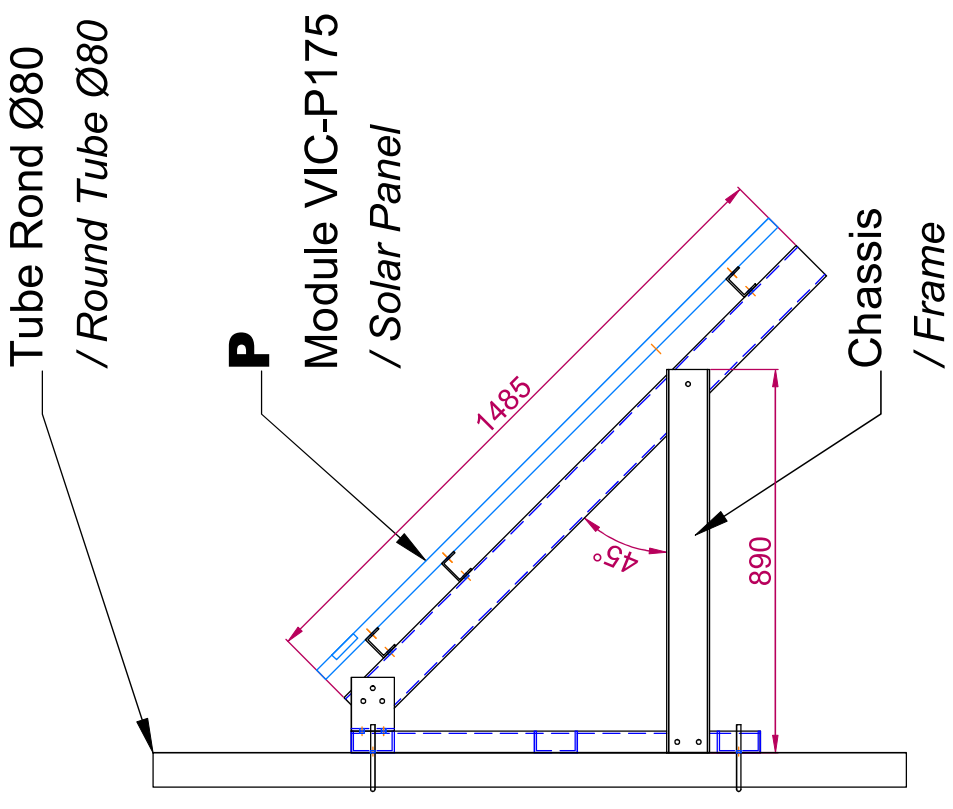
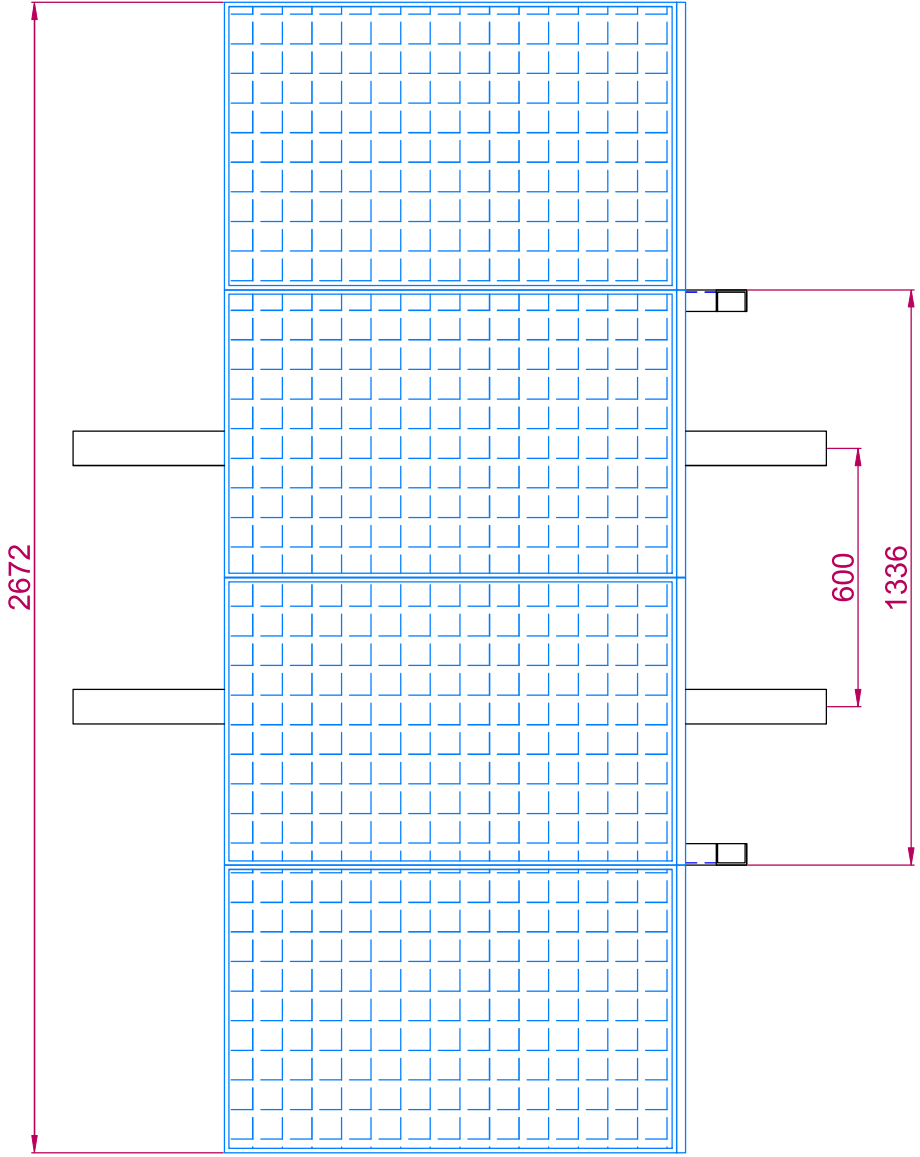


STATION SOLAIRE 48Vdc / 700Wc

SOLAR STATION 700Wp / 48Vdc

**GS 48 1948
24.10074**

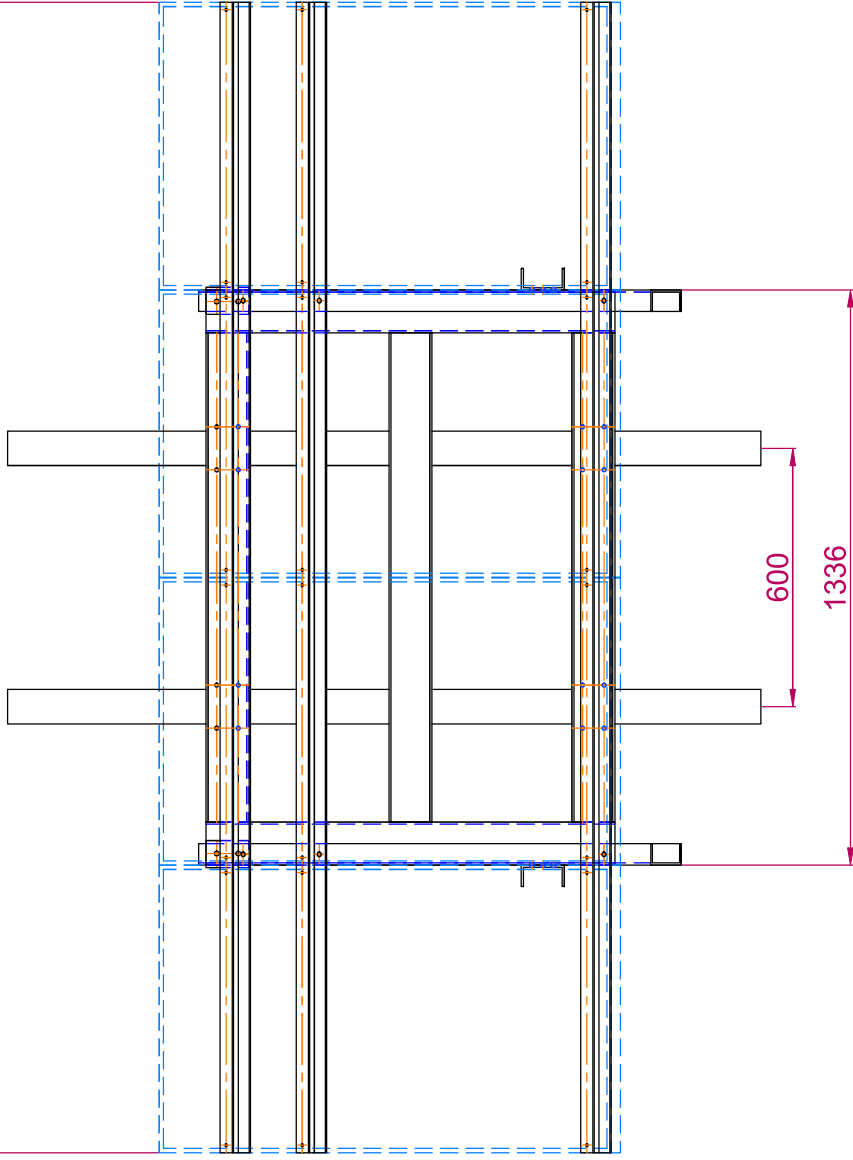
**OBSTA
29 Bd Edgar Quinet
75014 Paris
France
<http://www.obsta.com>**



DATE A JOUR UPDATE:	Ed.1: 08.01.25	Ed.2:	Ed.3:	Ed.4:	Ed.5:	E.S.:	ECHELLE / SCALE: 1:4 EN A4	
DESSINE PAR DRAW BY:	S.SANTOS						FORMAT: A3-H SIZE:	
VERIFIE PAR APPROVED BY:	J.M.FOSSE						POUR 1/1	
STATION SOLAIRE 48Vdc 700Wc SOLAR STATION 48Vdc 700WP							GS 48 1948 PE1 24.10074	



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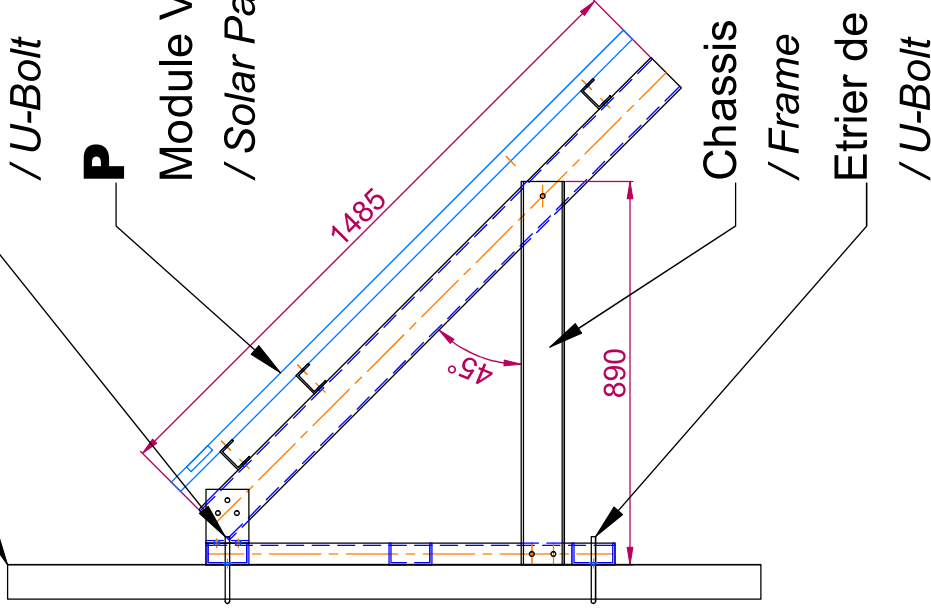


Tube Rond Ø80
/ Round Tube Ø80

Etrier de fixation
/ U-Bolt

P

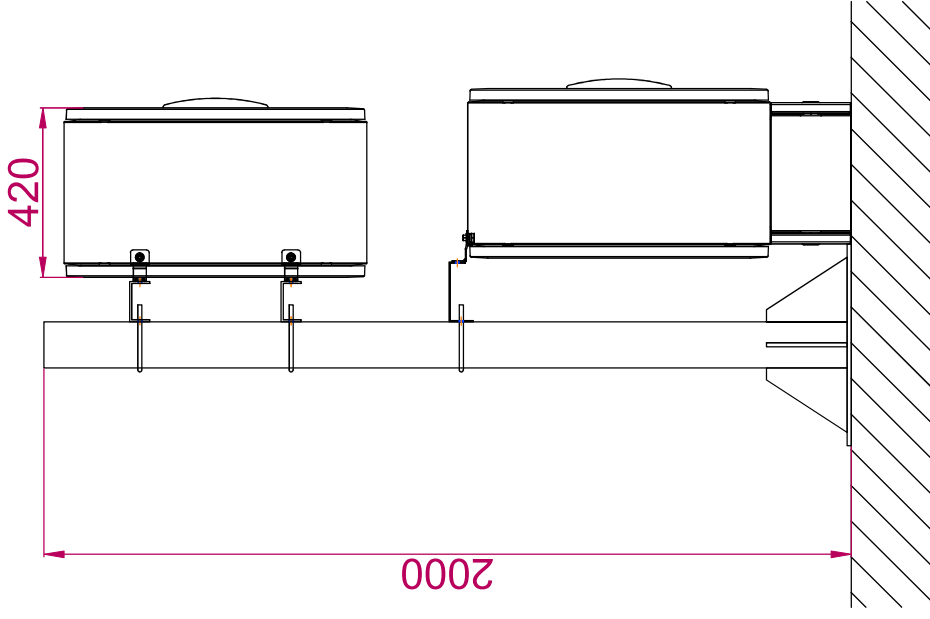
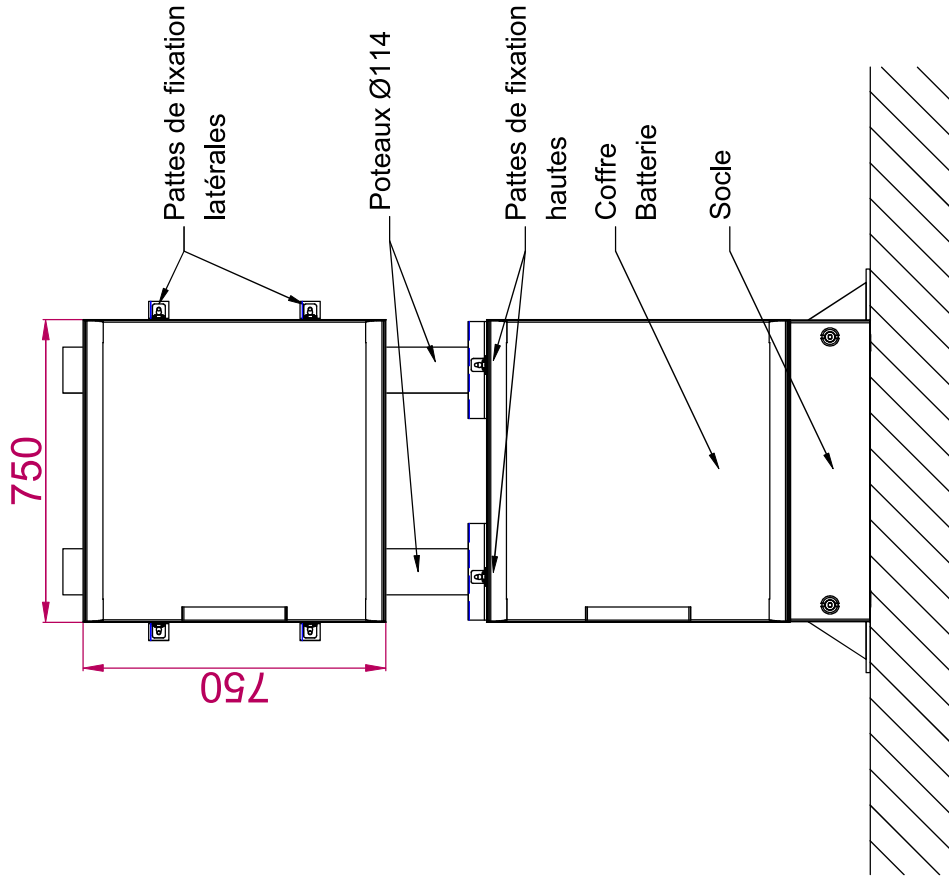
Module VIC-P175
/ Solar Panel



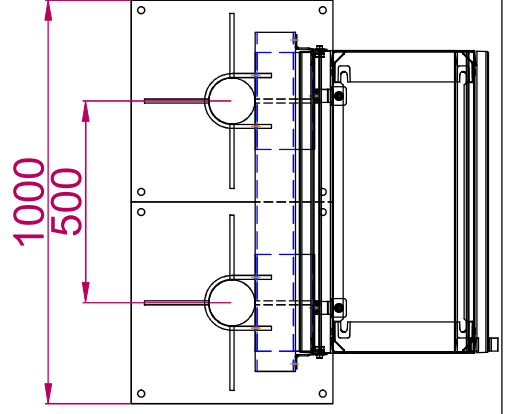
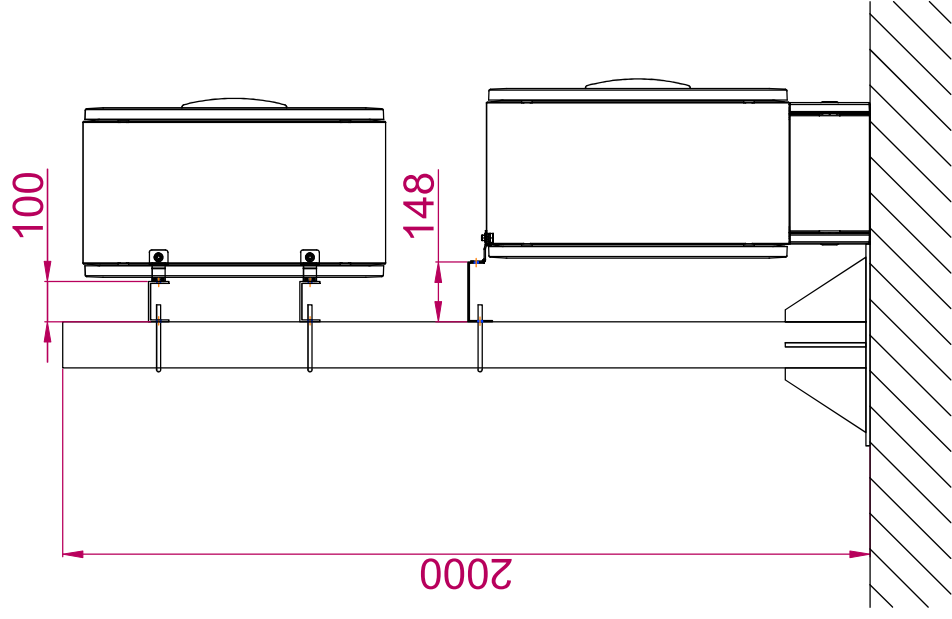
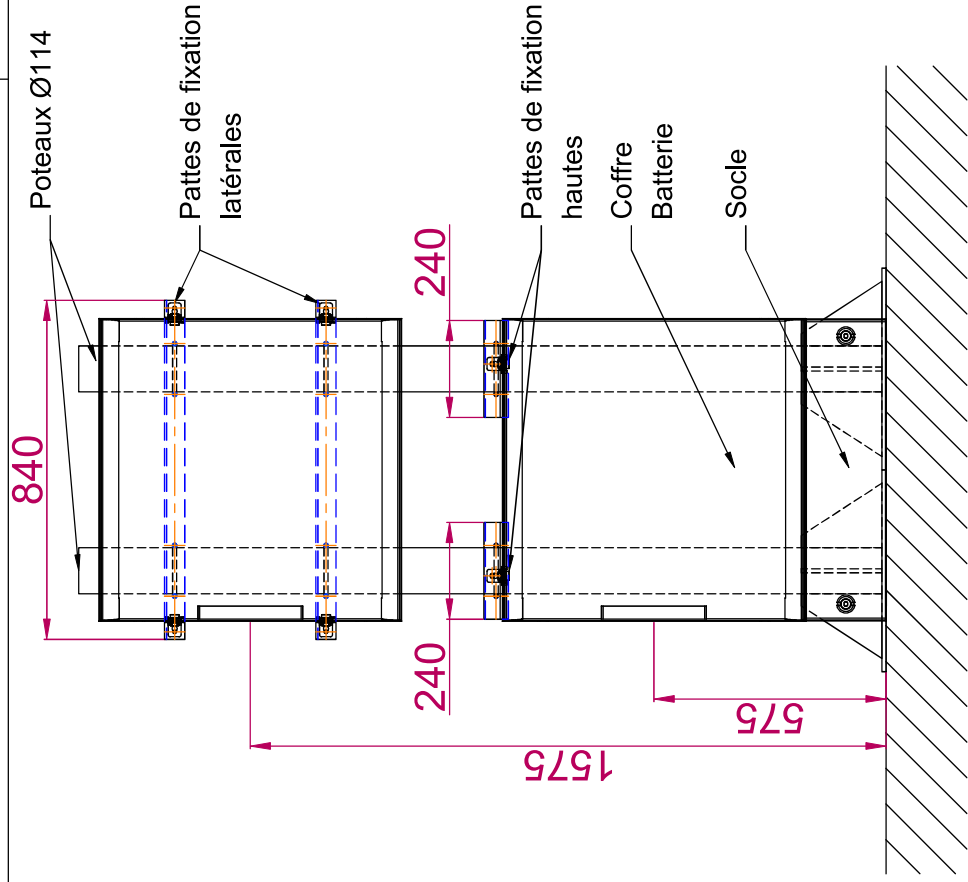
Chassis
/ Frame

Etrier de fixation
/ U-Bolt

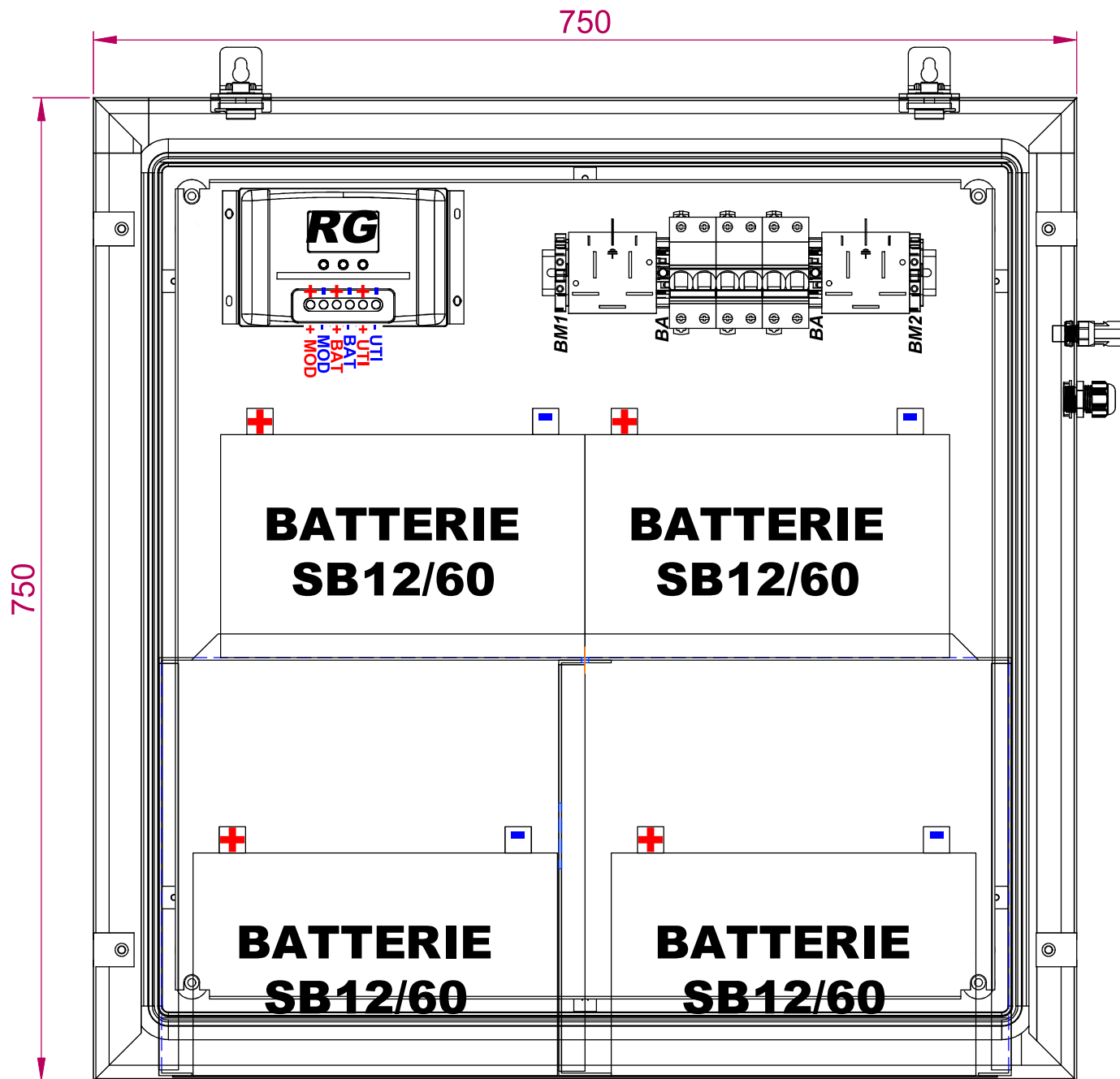
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VERIFIE PAR: APPROVED BY:	J.M.FOSSE						
STATION SOLAIRE 48Vdc 700Wc SOLAR STATION 48Vdc 700WP							POUR 1/1
GS 48 1948 PE2							
							24.10074



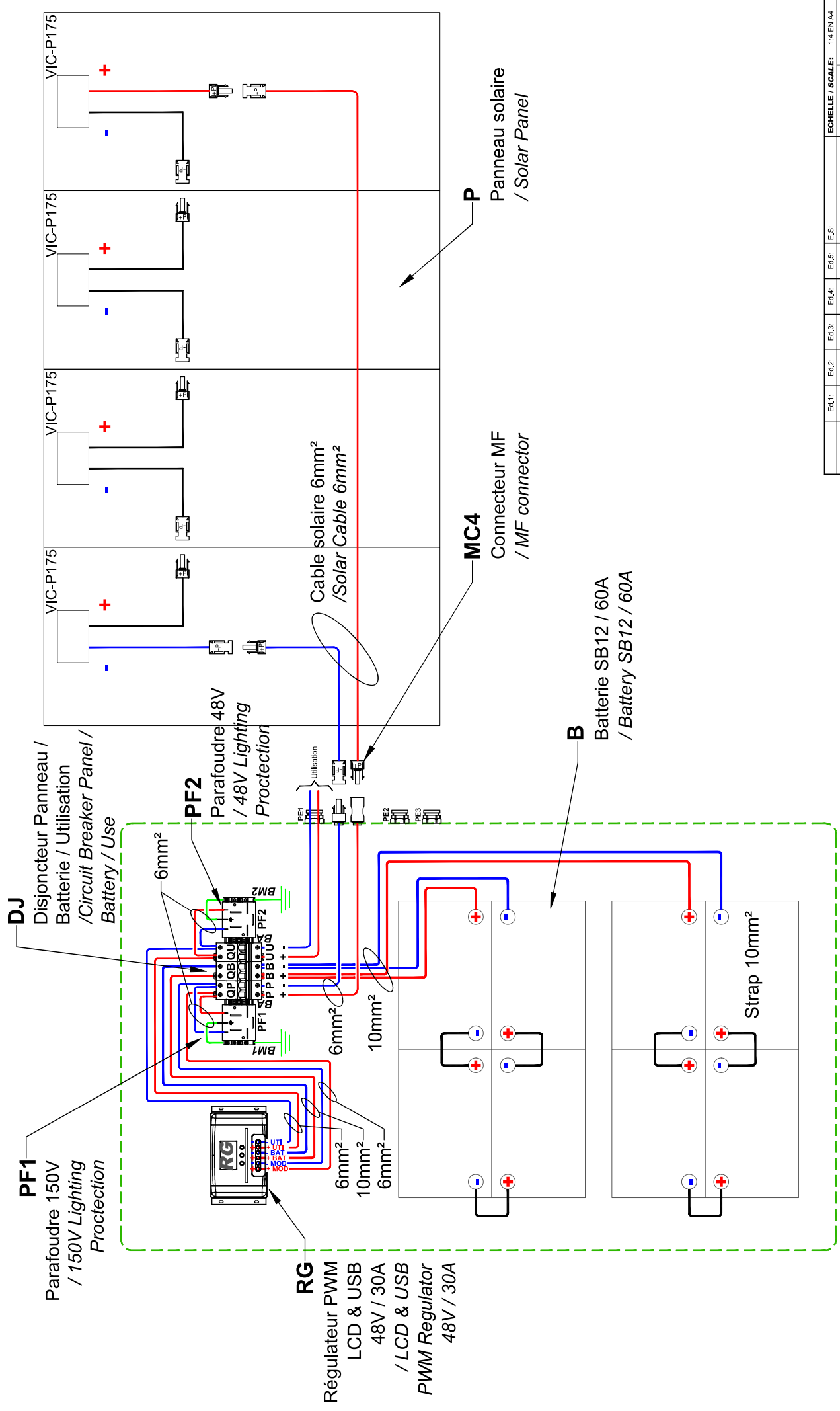
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DESIGNER DRAW BY:	S.SANTOS									
VERIFIER PAR: APPROVED BY:	J.M.FOSSE									
STATION SOLAIRE 48Vdc 700Wc										
SOLAR STATION 48Vdc 700Wp										
GS 48 1948 PE1										24.10074



DATE / DATE:	Ed.1:	Ed.2:	Ed.3:	Ed.4:	Ed.5:	E.S.:	TOLERANCE / TOLERANCE:	ISO 2768-M	FORMAT / SIZE:	1/4 EN A4
08.01.25										
DRAWN BY: S.SANTOS										
APPROVED BY: J.M.FOSSE										
STATION SOLAIRE 48Vdc 700Wc										GS 48 1948 PE2 24.10074
SOLAR STATION 48Vdc 700Wp										



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MISE A JOUR:							TOLERANCE: ISO 2788-M	FORMAT: A3-H	
UPDATE:	08.01.25						TOLERANCE:	SIZE:	
DESSINE PAR:						FOLIO			
DRAW BY:	S.SANTOS					11			
VERIFIE PAR:	JM.FOSSE								
APPROVED BY:									
STATION SOLAIRE 48Vdc 700Wc							GS 48 1948 PE3		
SOLAR STATION 48Vdc 700Wp							24.10074		



PF1
Parafoudre 150V
/ 150V Lighting
Protection

DJ
Disjoncteur Panneau /
Batterie / Utilisation
/ Circuit Breaker Panel /
Battery / Use

PF2
Parafoudre 48V
/ 48V Lighting
Protection

RG
Régulateur PWM
LCD & USB
48V / 30A
/ LCD & USB
PWM Regulator
48V / 30A

Cable solaire 6mm²
/ Solar Cable 6mm²

MC4
Connecteur MF
/ MF connector

B
Batterie SB12 / 60A
/ Battery SB12 / 60A

Strap 10mm²

P
Panneau solaire
/ Solar Panel

Ed.1:	Ed.2:	Ed.3:	Ed.4:	Ed.5:	E.S:	ECHELLE / SCALE:
07.01.25						1:4 EN A4
DESIGNER / DRAW BY:	S.SANTOS					FORMAT: A3-H
VERIFIER PAR / APPROVED BY:	F.LOISELLE					SIZE:
						FOUD
						1/1
STATION SOLAIRE 48Vdc 700Wc						
SOLAR STATION 48Vdc 700Wp						

GS 48 1948 P

24.10074

CHRONOLOGIE DE MISE EN SERVICE *COMMISSIONING TIMELINE*

Mise en service

/ Commissioning

1. Fermé QB / *Close QB*
2. Fermé QP / *Close QP*
3. Fermé QU / *Close QU*

Mise à l'arrêt

/ Shutdown

1. Ouvrir QU / *Open QU*
2. Ouvrir QP / *Open QP*
3. Ouvrir QB / *Open QB*

BlueSolar Polycrystalline Panels

www.victronenergy.com



BlueSolar Polycrystalline 175W

- Low voltage-temperature coefficient enhances high-temperature operation.
- Exceptional low-light performance and high sensitivity to light across the entire solar spectrum.
- 25-Year limited warranty on power output and performance.
- 5-Year limited warranty on materials and workmanship.
- Sealed, waterproof, multi-functional junction box gives high level of safety.
- High performance bypass diodes minimize the power drop caused by shade.
- Advanced EVA (Ethylene Vinyl Acetate) encapsulation system with triple-layer back sheet meets the most stringent safety requirements for high-voltage operation.
- A sturdy, anodized aluminium frame allows modules to be easily roof-mounted with a variety of standard mounting systems.
- Highest quality, high-transmission tempered glass provides enhanced stiffness and impact resistance.
- High power models with pre-wired quick-connect system with MC4 (PV-ST01) connectors.



MC4 connectors

Article Number	Description	Net weight	Electrical data under STC (1)				
			Nominal Power	Max-Power Voltage	Max-Power Current	Open-Circuit Voltage	Short-Circuit Current
			P _{MPP}	V _{MPP}	I _{MPP}	V _{oc}	I _{sc}
		Kg	W	V	A	V	A
SPP040201200	20W-12V Poly 440 x 350 x 25mm series 4a	1.9	20	18.4	1.09	21.96	1.18
SPP040301200	30W-12V Poly 655 x 350 x 25mm series 4a	2.8	30	18.2	1.66	21.80	1.80
SPP040451200	45W-12V Poly 425 x 668 x 25mm series 4a	3.1	45	19.1	2.36	22.90	2.55
SPP040601200	60W-12V Poly 545 x 668 x 25mm series 4a	4	60	19.3	3.12	23.10	3.37
SPP040901200	90W-12V Poly 780 x 668 x 30mm series 4a	6.1	90	19.5	4.61	23.44	4.98
SPP041151200	115W-12V Poly 1015 x 668 x 30mm series 4a	8	115	18.9	6.08	22.73	6.56
SPP041151202*	115W-12V Poly 1030 x 668 x 30mm series 4b	8	115	18.9	6.08	22.73	6.56
SPP041751200	175W-12V Poly 1485 x 668 x 30mm series 4a	12	175	18.3	9.56	21.9	10.24
SPP042702000	270W-20V Poly 1640 x 992 x 35mm series 4a	18.4	270	31.7	8.52	38.04	9.21
SPP043302400	330W-24V Poly 1956 x 992 x 40mm series 4a	22.5	330	37.3	8.86	44.72	9.57
SPP043302402*	330W-24V Poly 1980 x 1002 x 40mm series 4b	23	330	37.3	8.86	44.72	9.57

Module	SPP 040201200	SPP 040301200	SPP 040451200	SPP 040601200	SPP 040901200	SPP 041151200	SPP 041151202	SPP 041751200	SPP 042702000	SPP 043302400	SPP 043302402
Nominal Power (± 3% tolerance)	20W	30W	45W	60W	90W	115W	115W	175W	270W	330W	330W
Cell type	Polycrystalline										
Number of cells in series	36						60			72	
Maximum system voltage (V)	1000V										
Temperature coefficient of PMPP (%)	-0.45/°C	-0.45/°C	-0.45/°C	-0.45/°C	-0.45/°C	-0.45/°C	-0.45/°C	-0.45/°C	-0.47/°C	-0.45/°C	-0.45/°C
Temperature coefficient of Voc (%)	-0.35/°C	-0.35/°C	-0.35/°C	-0.35/°C	-0.35/°C	-0.35/°C	-0.35/°C	-0.35/°C	-0.34/°C	-0.35/°C	-0.35/°C
Temperature coefficient of Isc (%)	+0.04/°C	+0.04/°C	+0.04/°C	+0.04/°C	+0.04/°C	+0.04/°C	+0.04/°C	+0.04/°C	+0.045/°C	+0.04/°C	+0.04/°C
Temperature Range	-40°C to +85°C										
Surface Maximum Load Capacity	200 kg/m ²										
Allowable Hail Load	23 m/s, 7.53 g										
Junction Box Type	PV-LH0805	PV-LH0806		PV-LH0801		PV-LH0808			PV-JB002		
Length of Cable / connector	No cable				900 mm / MC4						
Output tolerance	+/-3%										
Frame	Aluminium										
Product warranty	5 years										
Warranty on electrical performance	10 years 90% + 25 years 80% of power output										
Smallest packaging unit	1 panel										
Quantity per pallet	380	240	200	140	72	72	72	48	42	37	37

*New dimensions: will replace 4a model

1) STC (Standard Test Conditions): 1000 W/m², 25°C, AM (Air Mass) 1.5

BlueSolar PWM Charge Controller-LCD&USB 12/24V & 48V

www.victronenergy.com

Liquid crystal display

For status monitoring and set-up

Load output

Over-discharge of the battery can be prevented by connecting all loads to the load output. The load output will disconnect the load when the battery has been discharged to a pre-set voltage.

Some loads (especially inverters) can best be connected directly to the battery, and the inverter remote control connected to the load output. A special interface cable may be needed, please see the manual. The connect and disconnect voltages are adjustable.

Day/night timing of the load output

This option allows for a pre-set ON-time after dusk.

Programmable battery charge algorithm

Preprogrammed algorithms for AGM, GEL, Flooded or LiFePO4 batteries (with internal BMS only)

Two 5 Volt USB outputs

Maximum current (both outputs combined): 2A



BlueSolar Charge Controllers
LCD&USB 12/24-5/10/20



BlueSolar Charge Controllers
LCD&USB 12/24-30 & 48-10/20/30

BlueSolar PWM Charge Controller	12/24-5	12/24-10	12/24-20	12/24-30	48-10	48-20	48-30
Battery Voltage	12/24 V with automatic system voltage detection				48V		
Rated charge current	5A	10A	20A	30A	10A	20A	30A
Automatic load disconnect	Yes						
Maximum solar voltage	28V / 55V (1)				100V (1)		
Self-consumption	< 10 mA						
Load output	Manual control + low voltage disconnect +timer						
Protection	Battery reverse polarity (fuse)		Output short circuit		Over temperature		
Overload protection	Shut down after 60 s in case of 130% load						
	Shut down after 5 s in case of 160% load						
	Short circuit: immediate shut down						
Grounding	Common positive						
Operating temp. range	-35 to +60°C (full load)						
Humidity (non-condensing)	Max 95%						
BATTERY							
Charge voltage 'absorption'	Factory setting: 14,4V / 28,8V				Factory setting: 57,6V		
Charge voltage 'float' (2)	Factory setting: 13,7V / 27,4V				Factory setting: 54,8V		
Low voltage load disconnect	Factory setting: 11,2V / 22,4V				Factory setting: 44,8V		
Low voltage load reconnect	Factory setting: 12,6V / 25,2V				Factory setting: 50,4V		
USB							
Voltage	5V						
Current	2A (total from 2 outputs)						
ENCLOSURE							
Protection class	IP20						
Terminal size	6 mm ² / AWG10			16mm ² / AWG6			
Weight	0,15kg			0,3kg			
Dimensions (h x w x d)	96 x 169 x 36 mm (3.8 x 6.7 x 1.4 inch)			101x184x47mm (4.0 x 7.4 x 1.8 inch)			
STANDARDS							
Safety	EN60335-1, IEC 62109-1						
EMC	EN 61000-6-1, EN 61000-6-3, ISO 7637-2						
1) For 12V use 36 cell solar panels For 24V use 72 cell solar panels or 2x 36 cell in series For 48V use 2x 72 cell solar panels or 4x 36 cell in series				2) The controller switches to the lower float voltage level 2 hours after the absorption voltage has been reached. Whenever the battery voltage becomes lower than 13V, a new charge cycle is triggered.			

Industrial Batteries / Network Power

Sonnenschein SOLAR

dryfit[®] ✦
 ✦ inside



»Premium quality for
 renewable energy«



Industrial Batteries

The powerful range of Network Power

GNB® Industrial Power offers reliable energy storage solutions for critical systems requiring uninterrupted power supply. With a comprehensive product range based on state-of-the-art technologies, GNB delivers the right battery for every application.

The below table is only indicative and depends on the specific customer application. For more information please ask a GNB sales representative.

Applications	Battery ranges																		
	Sonnenschein							Marathon		Sprinter		Absolyte	Powerfit	Classic					
	A400/A600	A400 FT	A500	A700	SOLAR	RAIL	Power Cycle	M-FT	L/XL	P/XP	XP-FT	GP/GX	S100/S300	GroE	OCSM	OPzS	Energy Bloc/OGi	Solar	rail
Telecom	●	●	●	●			●	●	●	●	●				●	●	●		
UPS	●	●	●	●			●	●	●	●	●				●		●		
Emergency lighting	●	●	●	●			●	●	●	●	●	●	●			●	●		
Security	●		●	●						●	●		●		●	●			
EVU	●	●		●			●	●				●		●	●	●	●		
Utility	●	●	●	●		●	●	●				●			●		●		●
Photovoltaic					●		●					●						●	
Universal	●	●	●	●			●	●	●	●	●	●	●		●	●	●		

Powerful product brands



- > VRLA batteries (Valve Regulated Lead Acid) in which the electrolyte is fixed in an Absorbent Glass Mat (AGM)
- > Excellent high current capability
- > Very economical
- > Maintenance-free (no topping up)



- > VRLA batteries (Valve Regulated Lead Acid) in which the electrolyte is fixed in a gel (dryfit® technology)
- > Inventor of Gel technology
- > Highest reliability, even in non-optimal conditions
- > Particularly suitable for cyclic applications
- > Maintenance-free (no topping up)



- > Conventional lead-acid batteries with liquid electrolyte
- > Extreme reliability, proven over decades
- > Low maintenance

Sonnenschein SOLAR BLOCK

Safe power supply for medium performance

The Sonnenschein SOLAR BLOCK battery range is very powerful and reliable in rough application conditions. This range is the ideal energy source for medium industrial solar systems, holiday and weekend houses, wind powerstations, as well as for other safety equipment power supplies.

Your benefits:

- > **Excellent cycling performance** – 1200 cycles at 60% Depth of Discharge C_{10} (at 20 °C)
- > **dryfit Gel** – VRLA technology
- > **Lowest energy consumption** – saving costs
- > **Robust design** – resilient in harsh conditions
- > **Proof against deep discharge** – greater long-term energy delivery
- > **Completely recyclable** – low CO₂ footprint



Specifications:

- > Nominal capacity 60.0 – 330 Ah C_{100} (20 °C)
- > Long shelf life up to 17 months at 20 °C without recharge due to the very low self discharge rate
- > Designed in accordance with IEC 61427 and IEC 60896-21/22
- > Manufactured in Europe in our ISO 9001 certified production plants
- > Trouble-free transport of operational blocks, no restrictions for rail, road, sea and air transportation (IATA, DGR, clause A67)
- > Approval: UL (Underwriter Laboratories), DNV GL (Germanischer Lloyd)

Nominal capacity 60.0 – 330 Ah C_{100}	Block battery	Grid plate	Recyclable	Valve regulated lead-acid batteries	Proof against deep discharge	Maintenance-free (no topping up)	1200 cycles at 60% DoD C_{10}

Sonnenschein SOLAR BLOCK

Technical data

Technical characteristics and data

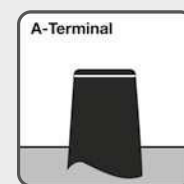
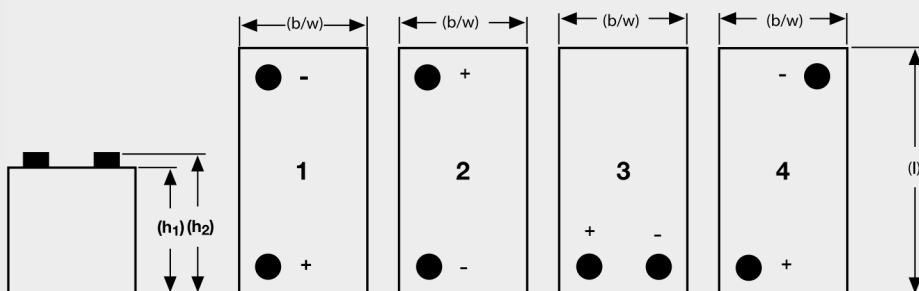
Type	Part number	Nom. voltage V	Nominal capacity C_{100} 1.80 Vpc 20 °C Ah	Discharge current I_{100} A	Length (l) max. mm	Width (b/w) max. mm	Height up to top of cover (h1) max. mm	Height including connectors (h2) max. mm	Weight* approx. kg	Terminal	Terminal position
SB 6/200 A	NGSB060200HSOCA	6	200	2.00	246	192	254	275	28.0	A-Terminal	4
SB 6/330 A	NGSB060330HSOCA	6	330	3.30	312	182	337	359	46.5	A-Terminal	4
SB12/60 A	NGSB120060HSOCA	12	60.0	0.60	278	175	-	190	18.0	A-Terminal	1
SB12/75 A	NGSB120075HSOCA	12	75.0	0.75	330	171	214	236	27.7	A-Terminal	2
SB12/100 A	NGSB120100HSOCA	12	100	1.00	513	189	195	219	36.0	A-Terminal	3
SB12/130 A	NGSB120130HSOCA	12	130	1.30	513	223	195	219	44.5	A-Terminal	3
SB12/185 A	NGSB120185HSOCA	12	185	1.85	518	274	216	238	60.5	A-Terminal	3

* Actual weight may differ by ±5%

Capacities $C_1 - C_{100}$ (20 °C) in Ah

Type	C_1 1.70 Vpc	C_5 1.70 Vpc	C_{10} 1.70 Vpc	C_{20} 1.75 Vpc	C_{100} 1.80 Vpc
SB 6/200 A	104	153	162	180	200
SB 6/330 A	150	235	260	280	330
SB12/60 A	34.0	45.0	52.0	56.0	60.0
SB12/75 A	48.0	60.0	66.0	70.0	75.0
SB12/100 A	57.0	84.0	89.0	90.0	100
SB12/130 A	78.0	101	105	116	130
SB12/185 A	103	150	155	165	185

Drawings with terminal position, terminal and torque



8 Nm

Not to scale!

Battery Service – Energy Solutions

Keeping your business on the move

GNB® is the Expert

Who could do this job better than the professionals of a company with more than 100 years of experience in battery development, production and application ?

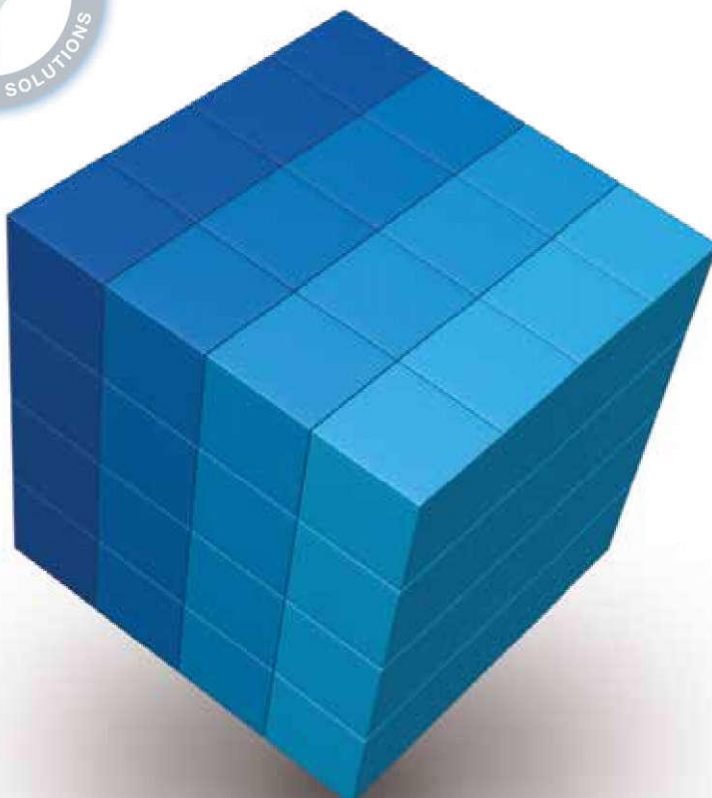
Leave the responsibility for the maintenance of your batteries and chargers to the professionals: a GNB service contract provides you with exceptional economic advantages through time savings, cost savings and safety!



Installation of Batteries and Systems for Network Power



- > Development of complete turnkey solutions from the design concept to installation and commissioning.
- > Installation according to legal and safety regulations including CE certification by approved installation technicians.
- > Training and certification of external installation technicians according to CE regulations.



- ✦ Inspection Contract
- ✦ Maintenance Contract
- ✦ Lifetime Warranty Contract
- ✦ Full Service Contract



»GNB Service – individualized, professional and all over Europe!«



Exide Technologies, with operations in more than 80 countries, is one of the world's largest producers and recyclers of lead-acid batteries. Exide Technologies provides a comprehensive and customized range of stored electrical energy solutions. Based on over 120 years of experience in the development of innovative technologies, Exide Technologies is an esteemed partner of OEMs and serves the spare parts market for industrial and automotive applications.

GNB Industrial Power – A division of Exide Technologies – offers an extensive range of storage products and services, including solutions for telecommunication systems, railway applications, mining, photovoltaic (solar energy), uninterrupted power supply (UPS), electrical power generation and distribution, fork lifts and electric vehicles.

Exide Technologies takes pride in its commitment to a better environment. An integrated approach to manufacturing, distributing and recycling of lead-acid batteries has been developed to ensure a safe and responsible life cycle for all of its products.

ENTRETIEN
MAINTENANCE

STATION SOLAIRE / SOLAR STATION

- Maintenir le module propre avec de l'eau et un chiffon (sans détergent)
Clean the module with rag and water (without any detergent)
- Vérifier les câblages
Check the wiring
- Nettoyer les bornes batterie s'il y a apparition d'oxyde (pas de graisse)
Clean the battery terminal to avoid oxide (no grease)
- Vérifier les serrages
- Check the tightenings