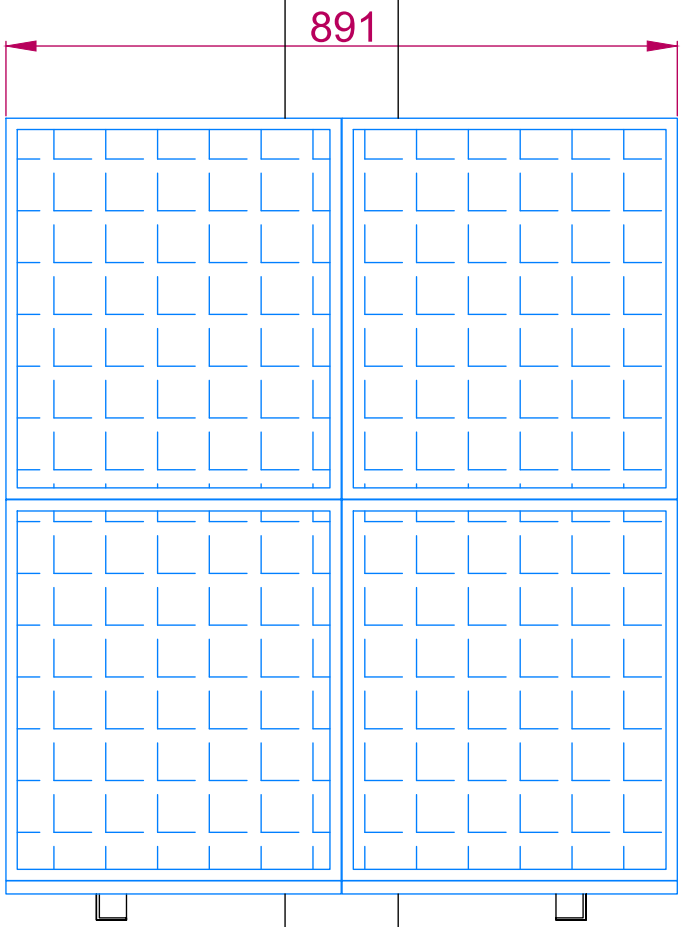
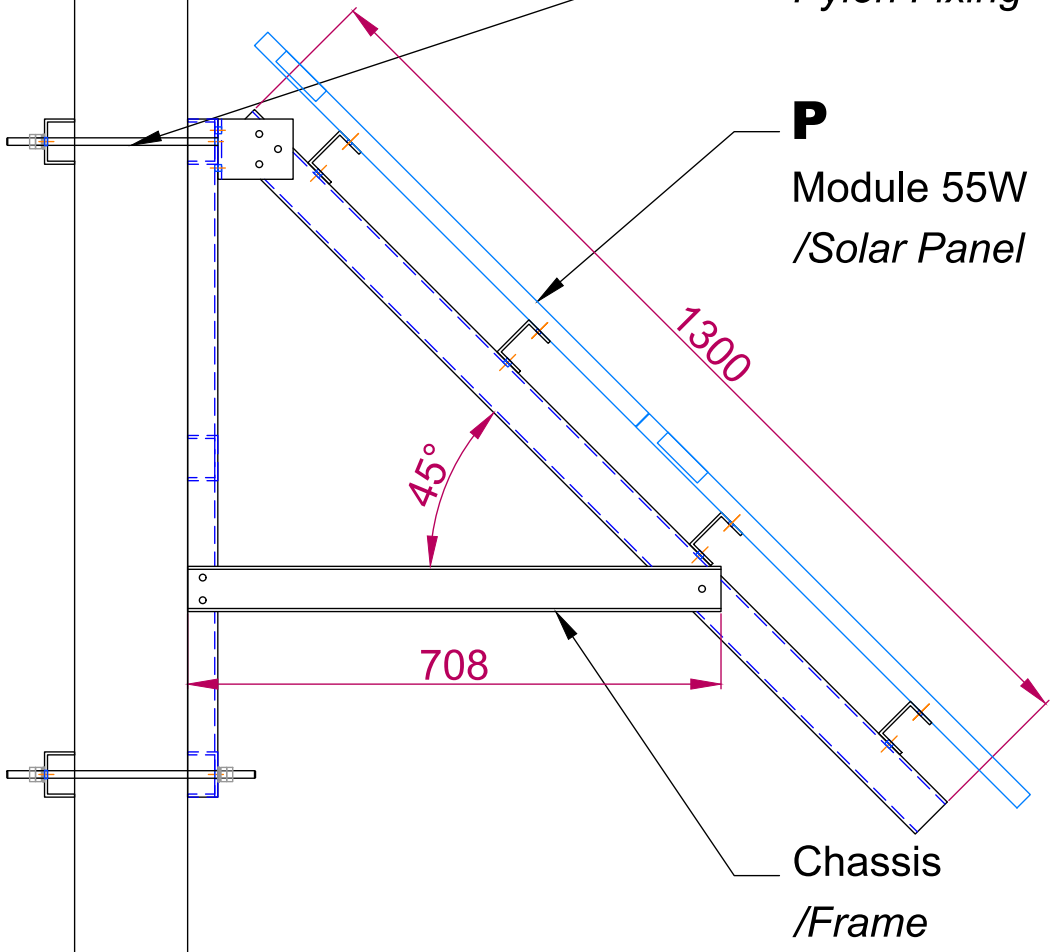
STATION SOLAIRE 8W / 48Vdc DE NUIT

8W / 48Vdc SOLAR STATION AT NIGHT

GS 48 2019
25.10331

OBSTA
29 Bd Edgar Quinet
75014 PARIS
France
http://www.obsta.com





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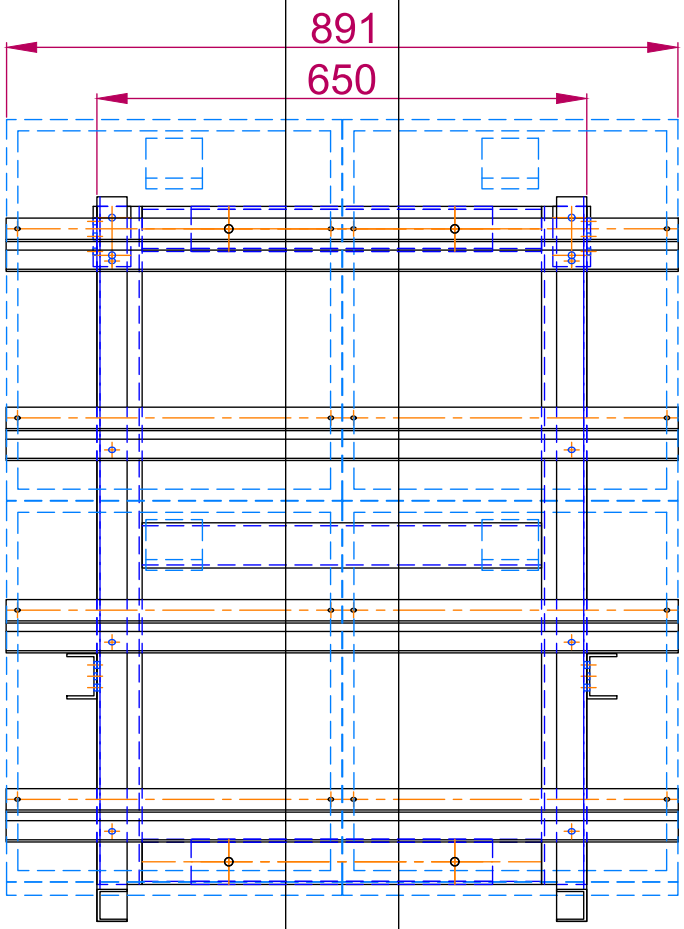
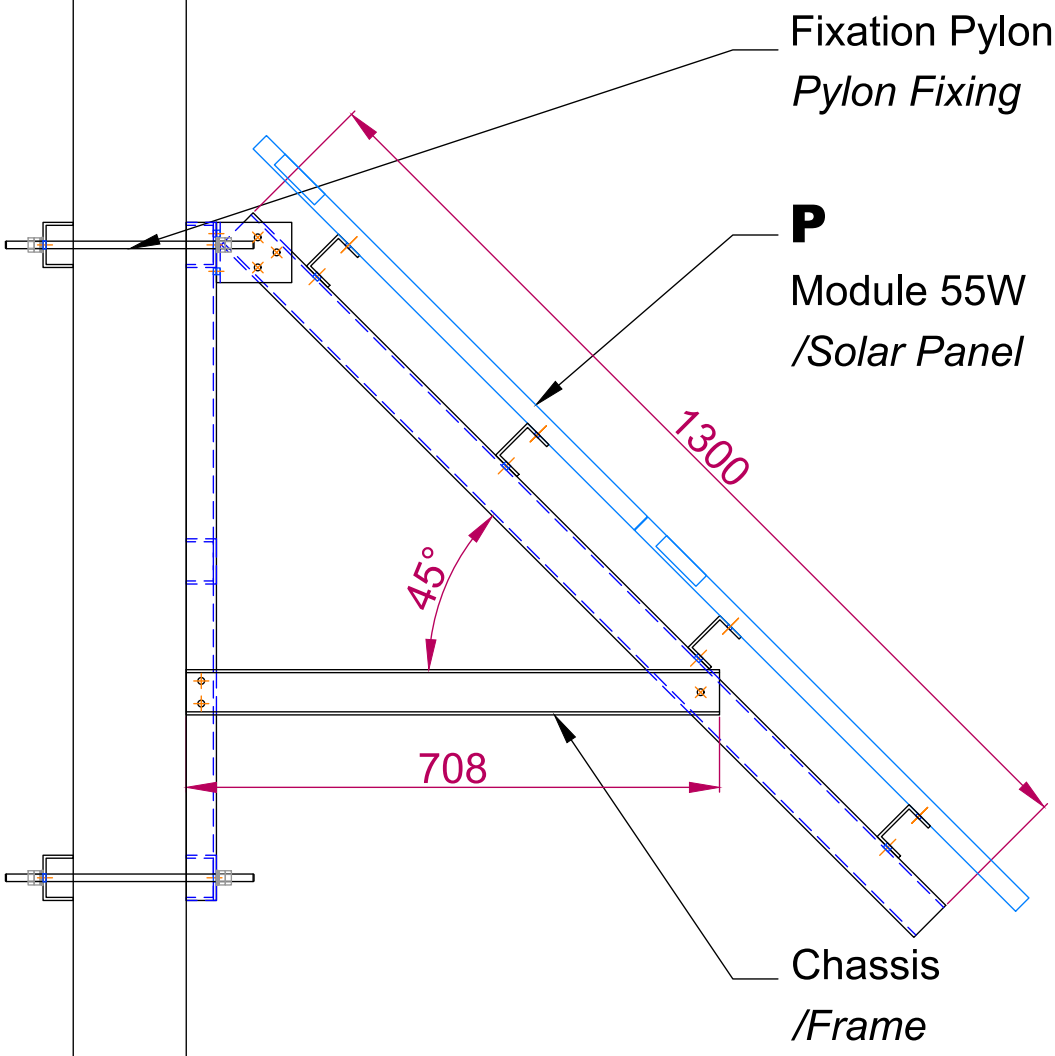
MISE A JOUR: UPDATE:	09.01.26					TOLERANCE: ISO 2768-M TOLERANCE:	FORMAT: A3-H SIZE:
DESSINE PAR: DRAW BY:	S.SANTOS					FOLIO 1/1	
VERIFIE PAR: APPROVED BY:	JM.FOSSE						

STATION SOLAIRE 8W 48Vdc DE NUIT
8W 48Vdc SOLAR STATION AT NIGHT

GS 48 2019 PE1

25.10331





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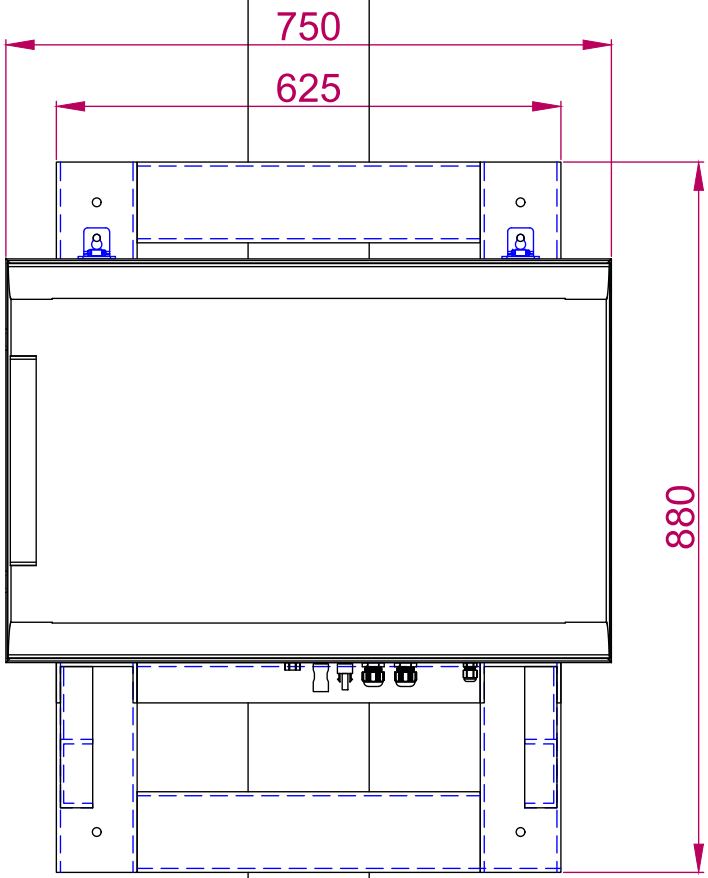
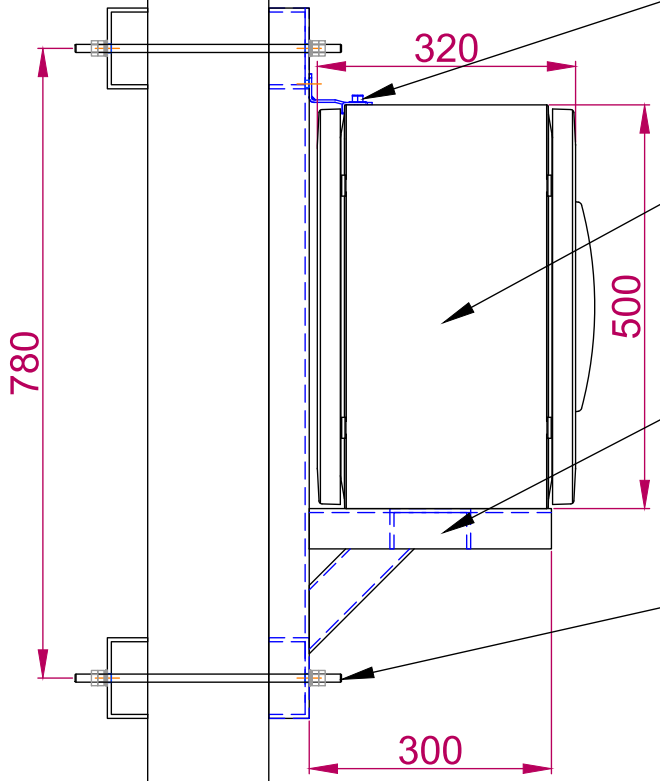
8W 48Vdc SOLAR STATION AT NIGHT

GS 48 2019 PE2 25.10331





Pattes de fixation
/Mounting brackets

Coffre Batterie
/Battery chest

Chassis
/Frame

Fixation pylone
/Pylon fixing

	Ed.1:	Ed.2:	Ed.3:	Ed.4:	Ed.5:	E.S:	ECHELLE / *SCALE*: 1:4 EN A4
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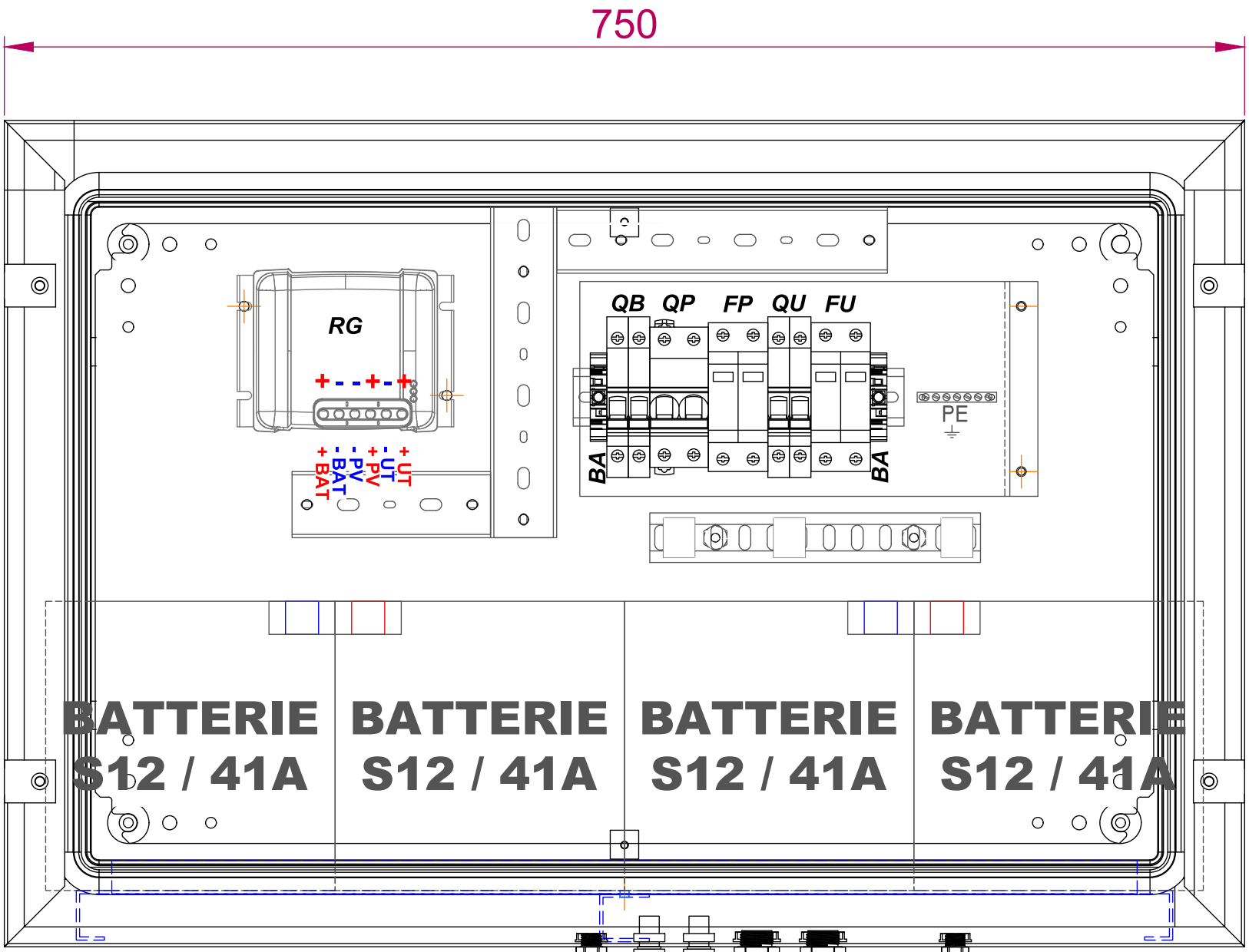
DESSINE PAR: *DRAW BY:*	S.SANTOS					FOLIO 1/1	
VERIFIE PAR: *APPROVED BY:*	JM.FOSSE						

STATION SOLAIRE 8W 48Vdc DE NUIT
8W 48Vdc SOLAR STATION AT NIGHT

GS 48 2019 PE1 25.10331



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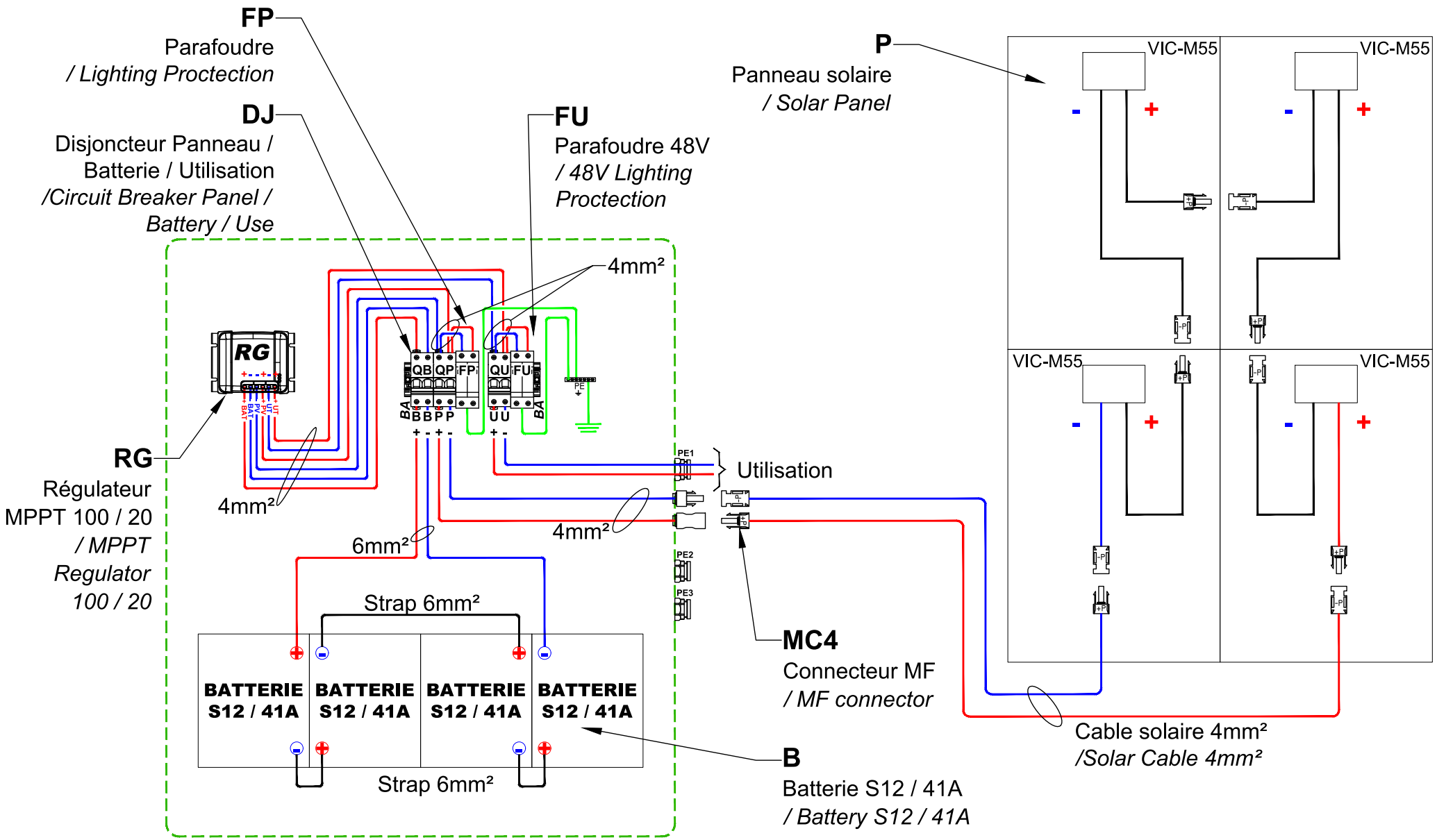
VERIFIE PAR: *APPROVED BY:*	JM.FOSSE						

STATION SOLAIRE 8W 48Vdc DE NUIT
8W 48Vdc SOLAR STATION AT NIGHT

GS 48 2019 PE2 25.10331



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DESSINE PAR: DRAW BY:	S.SANTOS					TOLERANCE:	SIZE:
VERIFIE PAR: APPROVED BY:	JM.FOSSE					FOLIO 1/1	

STATION SOLAIRE 8W 48Vdc
8W 48Vdc SOLAR STATION AT NIGHT

GS 48 2019 P

25.10331

	4	**Capot de batterie -**	Modèle clipsable	*Battery cover*	
	4	**Capot de batterie +**	Modèle clipsable	*Battery cover*	
	1	**Plaque plexiglass**		*Plexiglass*	
	3	**Serre-câbles**	CCL 6-13	*Cable clamps*	
	1	**Rail perforé en forme de C**	35x11 Long. 200 mm	*C Rail*	
	1	**Goulotte plastique**	40 X 60	*Slotted Trunking*	
	1	**Cable solaire 4mm² (2x4m)**	H1Z2Z2-K	*Solar Cable*	
MC4	2	**Paire Connecteur**	MC4-Evo 2 M/F	*MC4-Evo 2 Connector Pairs*	
	3	**Strap Batterie**	6mm²	*Strap Battery*	
- B	4	**Cosse Batterie**	-	*Terminal Battery*	
+ B	4	**Cosse Batterie**	+	*Terminal Battery*	
B	4	**Batterie Gel**	12V / 41A	*Battery*	
PE	1	**Barrette de masse**	5 plots	*Earth Bar*	
FU	1	**Parafoudre 48VDC**	DS230-48DC	*Lighting Protection*	
QU	2	**Disjoncteur Unipolaire**	6A	*Circuit Breaker*	
FP	1	**Parafoudre**	DS50PVS-600/51	*Lighting Protection*	
QP	1	**Disjoncteur Bipolaire**	6A	*Circuit Breaker 6A*	
QB	2	**Disjoncteur Unipolaire**	20A	*Circuit Breaker 20A*	
BA	2	**Butée d'arrêt**	BAM4	*Terminal Block*	
	1	**Rail Din**	35x15 Long. 200 mm	*DIN rail*	
RG	1	**Régulateur Smart Solar**	MPPT 100 / 20	*Regulator*	
PE3	1	**Contre Ecrou**	M12	*Cable Gland*	
PE3	1	**Presse Etoupe**	M12	*Cable Gland*	
PE1 / PE2	2	**Contre Ecrou**	M20	*Cable Gland*	
PE1 / PE2	2	**Presse Etoupe**	M20	*Cable Gland*	
	1	**Prises à encastrer**	MC4 mâle	*Male flush-mounted sockets*	
	1	**Prises à encastrer**	MC4 femelle	*Female flush-mounted sockets*	
	1	**Soupape de pression**	à visser	*Pressure valve*	
	1	**Platine**		*Plate*	
	1	**Serrure**	barillet cylindrique	*Lock*	
	4	**Patte de fixation**	murale	*Fixing Chest*	
ENV	1	**Coffre Batterie polyester avec serrure**	500 x 750 x 320	*Battery Chest*	
CH	1	**Charpente Coffre batterie**	GS 48 2019 PE1	*Frame*	
P	4	**Module Solaire**	55W	*Solar Module*	
CH	1	**Charpente solaire**	GS 48 2019 PE1	*Frame*	
Repère	**Nb**	**Désignation**	**Référence**	***Désignation***	**PP**

MISE A JOUR: *UPDATE:*	**Ed1: 09/01/26**	**Ed2:**	**Ed3:**	**Ed4:**	**Ed5:**	**E.S.**	**FORMAT: A4** *SIZE:*	
ETABLI PAR: *DRAFT BY:*	S.SANTOS					**FOLIO**		
VERIFIE PAR: *APPROVED BY:*	T.LOISELLE					**1/1**		

KIT SOLAIRE 8W 48Vdc DE NUIT
8W 48Vdc SOLAR KIT AT NIGHT

GS 48 2019 N

25.10331
POOBS-25001206
1005SOL-220WP-41AH

CHRONOLOGIE DE MISE EN SERVICE
COMMISSIONING TIMELINE

Mise en service
/ Commissioning

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

Mise à l'arrêt
/ Shutdown

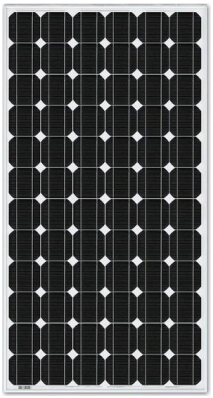
1. Ouvrir QU */ Open QU*
2. Ouvrir QP */ Open QP*
3. Ouvrir QB */ Open QB*

OBSTA
29 BOULEVARD EDGAR QUINET 75014 PARIS
FRANCE
http://www.obsta.com

Panneaux monocristallins BlueSolar

Derniers modèles

www.victronenergy.com



BlueSolar monocristallin 305 W

- Un coefficient de température de tension faible améliore un fonctionnement à température élevée.
- Performance de faible luminosité exceptionnelle et sensibilité élevée pour illuminer le spectre solaire complet.
- Garantie limitée de 25 ans sur la production et la performance de puissance.
- Garantie limitée de 5 ans sur les matériaux et la qualité d'exécution.
- La boîte de connexion est multifonctionnelle, étanche et scellée, ce qui permet un niveau de sécurité élevé.
- Les diodes de dérivation à haute performance minimisent les chutes de puissances en cas de manque de rayonnement.
- Système avancé d'encapsulation EAV (Éthylène-Acétate de Vinyle) avec une feuille isolante arrière à trois couches respectant les exigences de sécurité les plus rigoureuses pour un fonctionnement sous tension élevée.
- Un cadre en aluminium anodisé robuste permet de monter facilement les modules sur un toit avec une variété de systèmes de montage standard.
- Verre trempé de la plus haute qualité offrant une transmission élevée et fournissant une résistance à l'impact et une dureté améliorées.
- Modèles à haute puissance avec un système de connexion rapide précâblé avec des connecteurs MC4 (PV-ST01).

Référence de l'article	Description	Poids net	Données électriques sous STC (1)				
			Puissance Nominal	Tension de puissance	Courant de puissance	Tension de circuit ouvert	Courant de court-circuit
			P_{MPP}	V_{MPP}	I_{MPP}	Voc	Isc
		Kg	W	V	A	V	A
SPM040303603	30W-36 cells Mono 380 x 450 x 25 mm series 4c	1.8	30	21.2	1.42	24.7	1.49
SPM040553603	55W-36 cells Mono 715 x 445 x 25 mm series 4c	3.34	55	21.0	2.63	24.8	2.79
SPM040953003	95W-30 cells Mono 770 x 668 x 30 mm series 4c	5.4	95	17.6	5.42	20.4	5.7

Module	SPM040303603	SPM040553603	SPM040953003
Puissance nominale (±3% tolérance)	30W	55W	95W
Type de cellule	Monocristal		
Nombre de cellules en série	36		30
Tension de système maximale	1000V		
Coefficient de température de MPP (%)	-0.45/°C	-0.45/°C	-0.45/°C
Coefficient de température de Voc (%)	-0.35/°C	-0.35/°C	-0.35/°C
Coefficient de température de Isc (%)	+0.04/°C	+0.04/°C	+0.04/°C
Plage de température	-40 °C à +85 °C		
Capacité de charge maximale en surface	200 kg/m²		
Résistance à la grêle disponible	23 m/s, 7,53 g		
Type de boîte de connexion	PV-LH0806	PV-LH0801	
Longueur des câbles/Type de connecteur	Pas de câble		900 mm MC4
Tolérance de sortie	+/-3 %		
Cadre	Aluminium		
Garantie du produit	5 ans		
Garantie sur les performances électriques	10 ans 90 % + 25 ans 80 % de production de puissance		
Unité d'emballage la plus petite	1 panneau		
Quantité par palette	360	195	72

1) STC (Conditions de tests standard) : 1000 W/m², 25°C, AM (Air Mass – Masse d'air) 1,5

SmartSolar Charge Controllers with load output

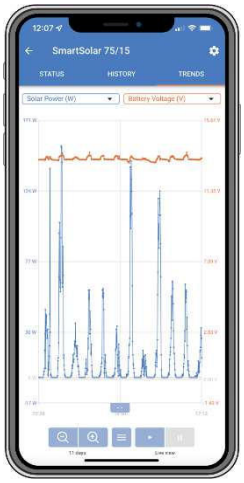
MPPT 75/10, 75/15, 100/15, 100/20-48 V

www.victronenergy.com

SmartSolar Charge Controller MPPT 75/15

Bluetooth sensing Smart Battery Sense

Bluetooth sensing BMV-712 Smart Battery Monitor



Stored trends

Bluetooth Smart built-in
The wireless solution to set-up, monitor, update and synchronise SmartSolar Charge Controllers.

VE.Direct - For a wired data connection to a Color Control GX, other GX products, PC or other devices

Ultra-fast Maximum Power Point Tracking (MPPT)
Especially in case of a clouded sky, when light intensity is changing continuously, an ultra-fast MPPT controller will improve energy harvest by up to 30 % compared to PWM charge controllers and by up to 10 % compared to slower MPPT controllers.

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 (48 V model: interface with a relay).
Alternatively, an intelligent battery management algorithm can be chosen: see Battery Life.
The load output is short circuit proof.

Battery Life: intelligent battery management
When a solar charge controller is not able to recharge the battery to its full capacity within one day, the result is often that the battery will continually be cycled between a 'partially charged' state and the 'end of discharge' state. This mode of operation (no regular full recharge) will destroy a lead-acid battery within weeks or months.
The Battery Life algorithm will monitor the state of charge of the battery and, if needed, day by day slightly increase the load disconnect level (i.e. disconnect the load earlier) until the harvested solar energy is sufficient to recharge the battery to nearly the full 100 %. From that point onwards, the load disconnect level will be modulated so that a nearly 100 % recharge is achieved about once every week.

Programmable battery charge algorithm - See the software section on our website for details

Day/night timing and light dimming option - See the software section on our website for details

Internal temperature sensor - Compensates absorption and float charge voltage for temperature.

Optional external battery voltage and temperature sensing via Bluetooth
A Smart Battery Sense or a BMV-712 Smart Battery Monitor can be used to communicate battery voltage and temperature to one or more SmartSolar Charge Controllers.

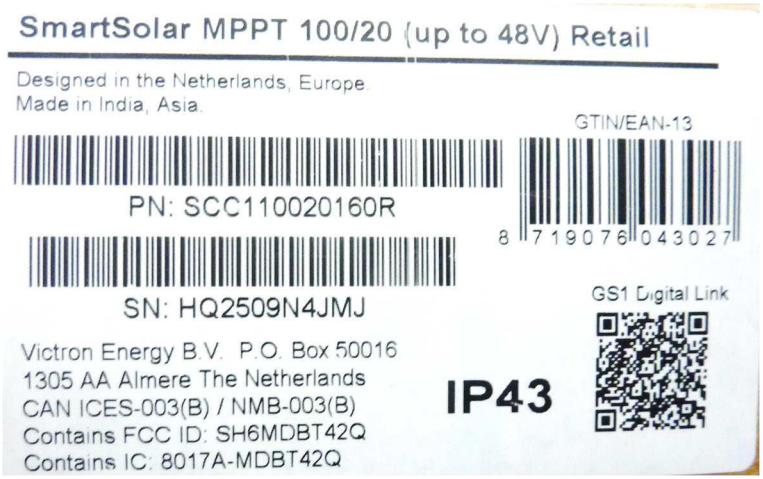
Fully discharged battery recovery function
Will initiate charging even if the battery has been discharged to zero volts.
Will reconnect to a fully discharged Li-ion battery with integrated disconnect function.

SmartSolar Charge Controller	MPPT 75/10	MPPT 75/15	MPPT 100/15	MPPT 100/20-48V
Battery voltage (auto select)	12/24 V			12/24/48 V
Rated charge current	10 A	15 A	15 A	20 A
Nominal PV power, 12 V 1a,b)	145 W	220 W	220 W	290 W
Nominal PV power, 24 V 1a,b)	290 W	440 W	440 W	580 W
Nominal PV power, 48 V 1a,b)	n. a.	n. a.	n. a.	1160 W
Max. PV short circuit current 2)	13 A	15 A	15 A	20 A
Automatic load disconnect	Yes			
Max. PV open circuit voltage	75 V		100 V	
Peak efficiency	98 %			
Self-consumption – load on	12 V: 19 mA 24 V: 16 mA			26 / 20 / 19 mA
Self-consumption – load off	12 V: 10 mA 24 V: 8 mA			10 / 8 / 7 mA
Charge voltage 'absorption'	14,4 V / 28,8 V (adjustable)			14,4 V / 28,8 V / 57,6 V (adj.)
Charge voltage 'float'	13,8 V / 27,6 V (adjustable)			13,8 V / 27,6 V / 55,2 V (adj.)
Charge algorithm	multi-stage adaptive			
Temperature compensation	-16 mV / °C resp. -32 mV / °C			
Max. continuous load current	15 A			20 A / 20 A / 1 A
Low voltage load disconnect	11,1 V / 22,2 V / 44,4 V or 11,8 V / 23,6 V / 47,2 V or Battery Life algorithm			
Low voltage load reconnect	13,1 V / 26,2 V / 52,4 V or 14 V / 28 V / 56 V or Battery Life algorithm			
Protection	Output short circuit / Over temperature			
Operating temperature	-30 to +60 °C (full rated output up to 40 °C)			
Humidity	95 %, non-condensing			
Data communication port	VE.Direct (see the data communication white paper on our website)			
ENCLOSURE				
Colour	Blue (RAL 5012)			
Power terminals	6 mm² / AWG10			
Protection category	IP43 (electronic components), IP22 (connection area)			
Weight	0,5 kg		0,6 kg	0,65 kg
Dimensions (h x w x d)	100 x 113 x 40 mm		100 x 113 x 50 mm	100 x 131 x 60 mm
STANDARDS				
Safety	EN/IEC 62109-1, UL 1741, CSA C22.2			
STORED TRENDS				
Data stored	Battery voltage,current and temperature, as well as load output current, PV voltage and PV current.			
Number of days trends data is stored	46			

1a) If more PV power is connected, the controller will limit input power.
1b) The PV voltage must exceed Vbat + 5 V for the controller to start.
Thereafter the minimum PV voltage is Vbat + 1 V
2) A PV array with a higher short circuit current may damage the controller.

NUMERO DE SERIE REGULATEUR SOLAIRE SMART SOLAR MPPT 100 / 20

NUMERO DE SERIE REGULATEUR SOLAIRE SMART SOLAR MPPT 100 / 20



GNB®
INDUSTRIAL POWER
A Division of Exide Technologies

Industrial Batteries / Network Power

Sonnenschein SOLAR

*»**Premium quality** for **renewable energy**«*

Sonnenschein®

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

ABSOLYTE® MARATHON® Sprinter® Powerfit®

> VRLA batteries (**V**alve **R**egulated **L**ead **A**cid) in which the electrolyte is fixed in an **A**bsorbent **G**lass **M**at (AGM)
> Excellent high current capability
> Very economical
> Maintenance-free (no topping up)

Sonnenschein®

> VRLA batteries (**V**alve **R**egulated **L**ead **A**cid) 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)

classic®

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

Sonnenschein SOLAR

The compact alternative for smaller solar applications

Sonnenschein SOLAR batteries are specially designed for small to medium performance requirements in leisure and consumer applications. The advantages of the maintenance free VRLA-batteries are enhanced by the worldwide excellent reputation and technical image of the dryfit technology.

Your benefits:

> **Excellent cycling performance** – 800 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 CO_2 footprint

Specifications:

> Nominal capacity 6.60 – 230 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 Loyd)

Nominal capacity 6.60 – 230 Ah C_{100} | Block battery | Grid plate | Recyclable | Valve regulated lead-acid batteries | Proof against deep discharge | Maintenance-free (no topping up) | 800 cycles at 60 % DoD C_{10}

Sonnenschein SOLAR
Technical data

Technical characteristics and data

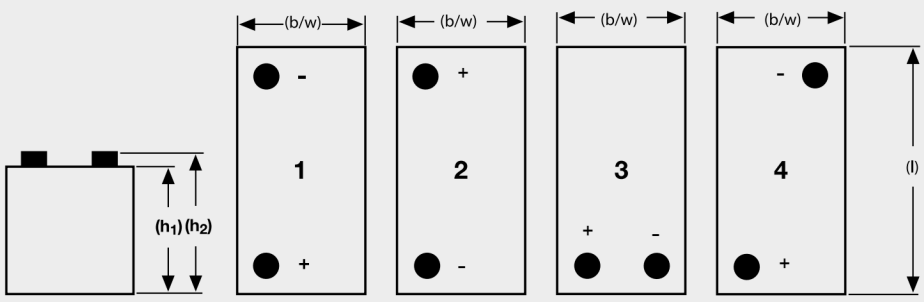
Type	Part number	Nom. voltage V	Nominal capacity C_{100} 1.80 Vpc 20 °C Ah	Discharge current I_{100} A	Length (l) max. mm	Width (b/w) max. mm	Height up to top of cover (h1) max. mm	Height including connectors (h2) max. mm	Weight* approx. kg	Terminal	Terminal position
S12/6.6 S	NGS01206D6HS0SA	12	6.60	0.06	152	65.5	94.5	98.4	2.60	S-4.8	3
S12/17 G5	NGS0120017HS0BA	12	17.0	0.17	181	76.0	-	167	6.10	G-M5	1
S12/27 G5	NGS0120027HS0BA	12	27.0	0.27	167	176	-	126	9.60	G-M5	1
S12/32 G6	NGS0120032HS0BA	12	32.0	0.32	197	132	160	179	11.1	G-M6	2
S12/41 A	NGS0120041HS0CA	12	41.0	0.41	210	175	-	175	14.2	A-Terminal	1
S12/60 A	NGS0120060HS0CA	12	60.0	0.60	261	136	208	230	18.0	A-Terminal	1
S12/85 A	NGS0120085HS0CA	12	85.0	0.85	353	175	-	190	25.5	A-Terminal	1
S12/90 A	NGS0120090HS0CA	12	90.0	0.90	330	171	213	236	28.2	A-Terminal	2
S12/130 A	NGS0120130HS0CA	12	130	1.30	286	269	208	230	36.7	A-Terminal	4
S12/230 A	NGS0120230HS0CA	12	230	2.30	518	274	216	238	63.5	A-Terminall	3

* Actual weight may differ by ±5%

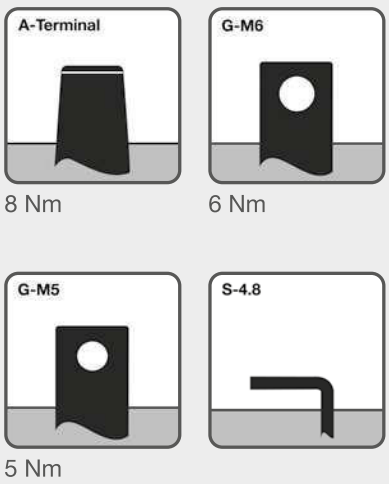
Capacities C_1 - C_{100} (20 °C) in Ah

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
S12/6.6 S	2.90	4.60	5.10	5.70	6.60
S12/17 G5	9.30	12.6	14.3	15.0	17.0
S12/27 G5	15.0	22.1	23.5	24.0	27.0
S12/32 G6	16.9	24.4	27.0	28.0	32.0
S12/41 A	21.0	30.6	34.0	38.0	41.0
S12/60 A	30.0	42.5	47.5	50.0	60.0
S12/85 A	55.0	68.5	74.0	76.0	85.0
S12/90 A	50.5	72.0	78.0	84.0	90.0
S12/130 A	66.0	93.5	104	110	130
S12/230 A	120	170	190	200	230

Drawings with terminal position, terminal and torque



Not to scale!



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)

- Verifier 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*

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