

# Array Box

## Protect and enhance the performance of your photovoltaic installation

An Array Box is a PV string combiner box installed between the PV modules and the inverter, providing protection and performance monitoring to your PV power plant.

### Why choose Array Box?



#### True bankability

- Warranty from a trusted partner with 178 years of experience
- World leader in industrial power drives, UPS and electrical distribution
- Strong service infrastructure worldwide to support your global needs



#### Higher return on investment

- Reduced CAPEX: Highly cost competitive range, offers capability to connect weather sensors
- Reduced OPEX: precise power production tracking, detection of PV modules failure and aging



#### Designed for reliability

- Resistant to corrosion and pollution thanks to the use of an isolating polyester enclosure reinforced with fiberglass
- Optimal cooling of the switch-disconnector and PV fuses to increase their useful life
- Undergone extensive safety, quality and reliability testing
- Robust design through rigorous Custom Reliability Testing



#### Flexible

- Fits every PV plant design and module technology with a range of 8/16/24 input channels and 160/300 A STC output currents
- Range available with and without monitoring of string currents
- On-field weather sensors easily connected inside the Array Box to avoid any additional equipment



#### Easy to service

- Conext Control™ identifies the service needs of the Array Box
- Motorized switch controlled remotely by Conext Control accelerates lock-out / tag-out procedure and allows an easy return to operation



#### Easy to install

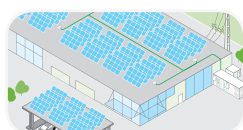
- Mounting on a support bracket or on a plinth for independence to the racking system, or attached to the racking system for less civil work
- Capabilities to directly connect up to 2 PV string cables and 2 DC output cables per polarity



### Product applications



PV power plants centralised



Commercial grid-tie centralised

Device short name	AB08-160	AB16-160	AB16-300	AB24-300
<b>Electrical specifications</b>				
<b>DC inputs</b>				
Number of inputs	8	16	16	24
Max. voltage in open circuit	1000 Vdc	1000 Vdc	1000 Vdc	1000 Vdc
Max. input current in short circuit	25 A	25 A	25 A	25 A
Max. input current in short circuit at STC	20 A	20 A	20 A	20 A
<b>DC output</b>				
Max. output current in short circuit at ambient temperature $\leq 40^{\circ}\text{C}$	200 A	200 A	375 A	375 A
at ambient temperature $\leq 45^{\circ}\text{C}$	180 A	200 A	350 A	350 A
at ambient temperature $\leq 50^{\circ}\text{C}$	160 A	200 A	315 A	315 A
Max. output current in short circuit at STC at ambient temperature $\leq 40^{\circ}\text{C}$	160 A	160 A	300 A	300 A
at ambient temperature $\leq 45^{\circ}\text{C}$	145 A	160 A	280 A	280 A
at ambient temperature $\leq 50^{\circ}\text{C}$	125 A	160 A	250 A	250 A
<b>AC supply*</b>				
Voltage at 50/60 Hz	230 V + 10 / -15%	230 V + 10 / -15%	230 V + 10 / -15%	230 V + 10 / -15%
<b>Environmental specifications (in operation)</b>				
Ambient temperature	-25°C to +50°C, above*	-25°C to +50°C, above*	-25°C to +50°C, above*	-25°C to +50°C, above*
Relative humidity	0 to 100% condensing	0 to 100% condensing	0 to 100% condensing	0 to 100% condensing
Altitude	0 to 2000 m without derating	0 to 2000 m without derating	0 to 2000 m without derating	0 to 2000 m without derating
<b>Mechanical specifications</b>				
<b>Enclosure</b>				
Type	Outdoor use, full insulating cabinet (polyester reinforced with fiberglass)			
Fire withstand	Self-extinguishing (does not propagate fire during the glow-wire test at 960 °C), halogen-free			
Color	RAL 7032, grey	RAL 7032, grey	RAL 7032, grey	RAL 7032, grey
<b>Product</b>				
Dimensions (H x W x D)	84.7 x 63.6 x 30.0 cm (33.3 x 25.0 x 11.8 in)	105.6 x 85.2 x 35.0 cm (41.6 x 33.5 x 13.8 in)	105.6 x 85.2 x 35.0 cm (41.6 x 33.5 x 13.8 in)	105.6 x 85.2 x 35.0 cm (41.6 x 33.5 x 13.8 in)
Weight (protect / monitored / controlled)	33.0 / 37.0 / 40.0 kg (72.8 / 81.6 / 88.1 lb)	58.0 / 62.0 / 65.0 kg (127.9 / 136.7 / 143.3 lb)	63.0 / 67.0 / 71.0 kg (138.9 / 147.7 / 156.5 lb)	67.0 / 71.0 / 75.0 kg (147.7 / 156.5 / 165.3 lb)
Mounting	Floor-standing on support, wall-fixing or attached with lugs (must be installed protected from direct sunshine)			
Degrees of protection	IP54 (IP55 with optional covers), IK10			
<b>Features</b>				
<b>Protection</b>				
DC inputs overcurrent protection	Protection on both polarities, gPV fuses, size 10 x 38 mm, max. rating 30 A (fuses not provided with product)			
DC overvoltage protection	Surge arrester, 1000 Vdc, type 2, I <sub>max</sub> 40 KA			
AC supply overvoltage protection*	Surge arrester, 230 Vac, type 2, I <sub>max</sub> 40 KA			
Electric shock protection	Class II equipment			
<b>Monitoring and control*</b>				
DC input currents*	0 to 30 A, accuracy +/- 0.5% full scale (one measurement per input)			
DC voltage*	0 to 1000 V, accuracy +/- 0.5%			
Internal temperature**	-30 to +120°C, accuracy +/- 1°C			
Temperature sensor input***	-30 to +120°C, accuracy +/- 1°C, for external PT1000 2 wires temperature sensor			
2 x irradiance sensor inputs***	0 to 1600 W/m <sup>2</sup> , accuracy +/- 0.5% full scale, for external 4-20 mA irradiance sensor			
Communication**	Profibus DP / RS485 and Modbus RTU / RS485 link			
Switch disconnecter remote control****	Motor pack and MX shunt release			
<b>Compliance</b>				
LV switchgear	IEC / EN 61439-1 and 61439-2			
CE marking	According LV directive 2006 / 95 / CE and EMC directive 2004 / 108 / CE			
<b>Available models</b>				
Protect: protection only	PVSAB31101	PVSAB31201	PVSAB31301	PVSAB31401
Monitored: protection and monitoring	PVSAB31111	PVSAB31211	PVSAB31311	PVSAB31411
Controlled: Protection, monitoring and switch control	PVSAB31121	PVSAB31221	PVSAB31321	PVSAB31421
Optional weather module*	PVSAB31021	PVSAB31021	PVSAB31021	PVSAB31021

Specifications are subject to change without notice. \*Contact Schneider Electric. \*\*For monitored and controlled models. \*\*\*With optional weather sensors connection module. \*\*\*\*For controlled models.

**Array Box works with the following Schneider Electric products**



**Support bracket for roof-mounting**  
Product no. NSYCOONS1400  
Product no. NSYCOONS1800  
**Support bracket for ground-mounting**  
Contact Schneider Electric



**Plinth for ground-mounting**  
Product no. NSYZM263  
for AB31-08 models  
Product no. NSYZM283  
for AB31-16/24 models



**Sealing cover IP55**  
Product no. NSYCAP125LZF



**Set of 4 x lugs for wall-mounting**  
Product no. NSYPFLM



**Set of 4 x feet for ground-mounting with plinths**  
Product no. NSYAEFBZ