

AC-DC battery chargers

YPOWER+



Silent



Up to 4 outputs



Bluetooth



No derating



IP65 YPOWER+



Lithium ready

HPOWER & Certified HPOWER



CAN-BUS interface



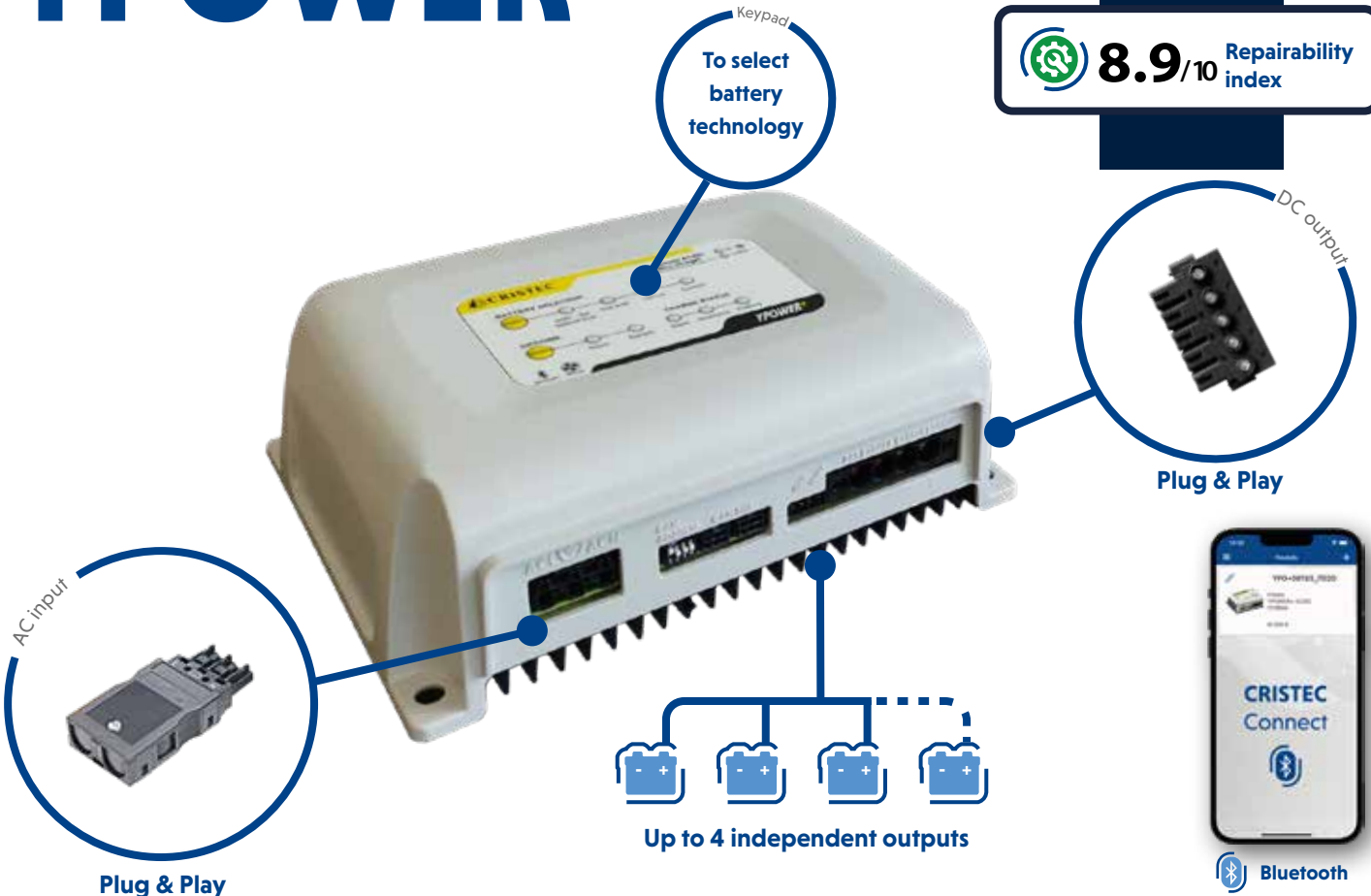
Plug & Play



YPOWER+

3 Warranty 3 years

8.9/10 Repairability index



Silent operating

CRISTEC is the only manufacturer offering chargers up to 12V 70A with natural convection (without fan). This advantage gives the YPOWER+ chargers a completely silent operation and an optimized lifespan. It is therefore possible to install them anywhere on board, including under a berth.



3 or 4 independent outputs depending of models

The YPOWER+ chargers are the only chargers which have up to 4 independent and non-limited outputs.



Low energy bluetooth

The YPOWER+ chargers are equipped with a Bluetooth Low Energy (BLE), variant of "classic" Bluetooth. The major advantage of BLE is its low power consumption as it consumes half the power of a classic Bluetooth.



No derating

Chargers have full charge up to +40°C or +60°C (140°F) with no loss, depending on the model.



Ignition protected

All models can be installed in the engine room thanks to ISO8846/SAE J1171 compliance which protects against ignition of flammable gases.



Worldwide use

Automatic detection of the power supply network, from 90 to 265VAC and from 47 to 65Hz. You do not have to care about the AC power grid or genset voltage.



5-stage charging profile

- **Boost:** charges batteries to 80% of full charge
- **Absorption:** slowly completes remaining charge to 100%
- **Floating:** maintains battery charge
- **Automatic refresh:** prevents sulphation and revitalizes batteries, selectable by keypad pushbutton
- **Reboost:** new automatic Boost phase if DC consumers and the state of batteries so require.

A regulated DC power-supply mode is also available : YPOWER+ chargers can be used as high-voltage DC-DC converters with input ranging from 121 to 375VDC.



Easy connection

Plug & Play connection, secure, simple and fast without opening the charger. AC and DC connectors are included.



Adaptative charging

Custom-made and simultaneous recharge of 3 or 4 battery banks. YPOWER+ chargers can be connected to various types of batteries simultaneously:

- Opened classic lead
- Sealed, gel or AGM
- Spiral sealed



Lithium Iron Phosphate (LiFePO4) with BMS. Selection of your technology of battery is easy thanks to the front keypad.



Remote control

The chargers are fitted with a CAN-Bus and a Bluetooth interface as standard. Connection to an NMEA network is also available through an optional adaptor, refer to charger's options page (p73).

NMEA



Part Number*	YPO12-20STPL	YPO12-30STPL	YPO12-50STPL	YPO12-70STPL
Model	12V/20A	12V/30A	12V-50A	12V-70A
Recommended battery bank**	100-200Ah	200-300Ah	300-500Ah	500-700Ah
Input				
AC Voltage	From 90 to 265VAC single-phase automatic			
DC Voltage	From 12V to 375VDC			
Frequency	From 47 to 65Hz automatic			
Current consumed 230/115VAC	1.3/2.6A	2/4A	2.7/5.6A	4.4/8.7A
Recommended power for a generator	450W	650W	700W	1050W
Power factor	1			
Efficiency	92.8% in 230VAC & 91% in 115VAC			
Input fuse	T6.3A/250V		T15A/250V	
Output				
Number of battery banks	3 separate positive terminals: +BAT E, +BAT 1 and +BAT 2 (integrated MOSFET splitter) 1 negative terminal: -BAT Each bank can be used individually and delivers the rated current		4 separate positive terminals: +BAT E, +BAT 1, +BAT 2 and +BAT 3 (integrated MOSFET splitter) 1 negative terminal: -BAT Each bank can be used individually and delivers the rated current	
Nominal current (+/-7%) @ rated power	20A/276W	30A/356W	50A/570W	70A/855W
Charging curve	Charging curve selection by push-button, Bluetooth or CAN-Bus (Boost, Absorption, Floating and Refresh)			
Battery type	Sealed lead, Gel, AGM as factory setting - calcium lead, LiFePO4, DC power-supply mode, etc. Specific request on demand			
Boost voltage for sealed lead battery (factory setting)	14.4VDC			
Floating voltage for sealed lead battery (factory setting)	13.8VDC			
Peak to peak ripple and noise	< 2% (at rated conditions)			
Automotive fuses mounted in series in minus pole -BAT	1 x 30A/32V	2 x 30A/32V	3 x 30A/32V	4 x 30A/32V
Environment				
Cooling	Natural (fanless)			
Sound level	0 dB			
Operating T° at 230VAC	From -20°C to +60°C (-4°F to +140°F)			
Derating (rated charge)	from 40°C (104°F)		from 60°C (140°F)	from 40°C (104°F)
Performance at 60°C (140°F)	16A (230VAC)	25A (230VAC)	40A (230VAC)	60A (230VAC)
Storage T°	From -20°C to +70°C (-4°F to +158°F)			
Relative humidity	up to 70% (95% without condensation)			
Bluetooth	Low energy bluetooth (BLE) - Power: +9dBm (frequency: 2412-2484MHz)			
Casing				
Material	Aluminium sink frame and clasp / Thermoplastic body			
Dimensions (length, height, depth)	238 x 181 x 81mm (9.4 x 7.1 x 3.2 in)		289 x 197 x 105mm (11.4 x 7.8 x 4.1 in)	
Weight	2kg (4.4 lb)		3.5kg (6.6 lb)	3.7kg (6.7 lb)
Fixing center distance	219 x 155mm (8.6 x 6.1 in)		272 x 170mm (10.7 x 6.7 in)	
Fixing screw (wall)	4 M5 round head screws			
Protection factor	IP34 (electronic) & IP22 (connections)		IP22	IP34 (electronic) & IP22 (connections)
Electronic card protection	Sealed casing		Water-repellent varnish (marine environment)	
Standards				
CE declaration of conformity	Available on request			
CE / EMC	EN61204-3			
CE / Security	EN60335-2-29, ISO8846/SAE J1171			
Protections				
Against transient input overvoltage by varistor (Not covered by warranty) / Against output polarity reversal by removable fuses / Against short-circuits and output overloads / Against abnormal overheating				
Communication				
CAN-Bus (NMEA on option) / Bluetooth				
Options				
Temperature probe & OTD probe (Over Temperature Device) ref: 2.8m: STP-UNI-2.8 / 5m: STP-UNI-5.0, remote control G-ON/OFF-R-PL				

*Included AC and DC connectors for item codes containing «ST» = Standard (except item codes containing «OE» – Original Equipment)

** Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.



Part Number*	YPO24-15STPL	YPO24-25STPL	YPO24-35STPL
Model	24V/15A	24V-25A	24V-35A
Recommended battery bank**	100-200Ah	200-300Ah	300-500Ah
Input			
AC Voltage	From 90 to 265VAC single-phase automatic		
DC Voltage	From 121 to 375VDC		
Frequency	From 47 to 65Hz automatic		
Current consumed 230/115VAC	1,7/3,4A	2,9/5,9A	4,5/8,8A
Recommended power for a generator	420W	700W	1050W
Power factor	1		
Efficiency	92.8% in 230VAC & 91% in 115VAC		
Input fuse	T6.3A/250V	T1.5A/250V	
Output			
Number of battery banks	3 (including one for the engine battery) : +BAT E, +BAT 1 et +BAT 2	4 (including one for the engine battery) : +BAT E, +BAT 1 et +BAT 2 (integrated Mosfet splitter) +BAT 3 (integrated Mosfet splitter). Each bank can be used individually and deliver the rated current	
Nominal current (+/-7%) @ rated power	15A/342W	25A/570W	35A/855W
Charging curve	IU or IUoU through internal dip switches (Boost, Absorption and Floating – factory setting) - Selectable automatic Refresh		
Battery type	Sealed lead as factory setting - Gel, AGM, calcium lead, LiFePO4, DC power-supply mode, etc. Specific request on demand		
Boost voltage for sealed lead battery (factory setting)	28.8VDC		
Floating voltage for sealed lead battery (factory setting)	27.6VDC		
Peak to peak ripple and noise	< 2% (at rated conditions)		
Automotive fuses mounted in series in minus pole -BAT	1 x 30A/32V	2 x 30A/32V	3 x 30A/32V
Environment			
Cooling	Natural (fanless)		
Sound level	0 dB		
Operating T° at 230VAC	From -20°C to +60°C (-4°F to +140°F)		
Derating	from 40°C (104°F)	from 60°C (140°F)	
Performance at 60°C (140°F)	12A (230VAC)	20A (230VAC)	30A (230VAC)
Storage T°	From -20°C to +70°C (-4°F to +158°F)		
Relative humidity	up to 70% (95% without condensation)		
Casing			
Material	Casing comprises 3 parts : Aluminium sink frame / Thermoplastic body / Aluminium clasp		
Dimensions (length, height, depth)	238 x 181 x 81mm (9.4 x 7.1 x 3.2 in)	289 x 197 x 105mm (11.4 x 7.8 x 4.1 in)	
Weight	2kg (4.4 lb)	3.7kg (6.7 lb)	
Fixing center distance	219 x 155mm (8.6 x 6.1 in)	272 x 170mm (10.7 x 6.7 in)	
Fixing screw (wall)	4 M5 round head screws		
Protection factor	IP34 (electronic) & IP22 (connections)		
Standards			
CE / EMC	EN61204-3		
CE / Security	EN60335-2-29 - ISO8846/SAE J1171		
Protections			
Against transient input overvoltage by varistor (Not covered by warranty) / Against output polarity reversal by fuses / Against short-circuits and output overloads / Against abnormal overheating			
Communication			
CAN-Bus (NMEA on option) / Bluetooth			
Options			
Temperature probe & OTD probe (Over Temperature Device) ref: 2.8m: STP-UNI-2.8 / 5m: STP-UNI-5.0, remote control G-ON/OFF-R-PL			

* Included AC and DC connectors for item codes containing «ST» = Standard (except item codes containing «OE» – Original Equipment)

** Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.



36V

48V

Part Number*	YPO36-20STPL	YPO48-15STPL
Model	36V/20A	48V-15A
Recommended battery bank**	100-200Ah	
Input		
AC Voltage	From 90 to 265VAC single-phase automatic	
DC Voltage	From 121 to 375VDC	
Frequency	From 47 to 65Hz automatic	
Current consumed 230/115VAC	4,4/8,7A	
Recommended power for a generator	650W	
Power factor	1	
Efficiency	92.8% in 230VAC & 91% in 115VAC	
Input fuse	T15A/250V	
Output		
Number of battery banks	4 (including one for the engine battery) : +BAT E, +BAT 1 et +BAT 2 (integrated Mosfet splitter) +BAT3 Each bank can be used individually and deliver the rated current	
Nominal current (+/-7%) @ rated power	20A/855W	15A/855W
Charging curve	IU or IUoU through internal dip switches (Boost, Absorption and Floating – factory setting) - Selectable automatic Refresh	
Battery type	Sealed lead as factory setting - Gel, AGM, calcium lead, LiFePO4, DC power-supply mode, etc. Specific request on demand	
Boost voltage for sealed lead battery (factory setting)	43,2VDC	57,6VDC
Floating voltage for sealed lead battery (factory setting)	41,4VDC	55,2VDC
Peak to peak ripple and noise	< 2% (at rated conditions)	
Automotive fuses mounted in series in minus pole -BAT	1 x 30A/80V	
Environment		
Cooling	Natural (fanless)	
Sound level	0 dB	
Operating T° at 230VAC	From -20°C to +60°C (-4°F to +140°F)	
Derating	from 40°C (104°F)	
Performance at 60°C (140°F)	15A (230VAC)	12A (230VAC)
Storage T°	From -20°C to +70°C (-4°F to +158°F)	
Relative humidity	up to 70% (95% without condensation)	
Casing		
Material	Casing comprises 3 parts : Aluminium sink frame / Thermoplastic body / Aluminium clasp	
Dimensions (length, height, depth)	289 x 197 x 105mm (11.4 x 7.8 x 4.1 in)	
Weight	3.7kg (6.7 lb)	
Fixing center distance	272 x 170mm (10.7 x 6.7 in)	
Fixing screw (wall)	4 M5 round head screws	
Protection factor	IP34 (electronic) & IP22 (connections)	
Standards		
CE / EMC	EN61204-3	
CE / Security	EN60335-2-29 - ISO8846/SAE J1171	
Protections		
Against transient input overvoltage by varistor (Not covered by warranty) / Against output polarity reversal by fuses / Against short-circuits and output overloads / Against abnormal overheating		
Communication		
CAN-Bus (NMEA on option) / Bluetooth		
Options		
Temperature probe & OTD probe (Over Temperature Device) ref: 2.8m: STP-UNI-2.8 / 5m: STP-UNI-5.0, remote control G-ON/OFF-R-PL		

* Included AC and DC connectors for item codes containing «ST» = Standard (except item codes containing «OE» – Original Equipment)

** Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.

IP65 POWER+

3 Warranty 3 years

8.9/10 Repairability index



Keypad
To select battery technology

IP65

AC & DC cables included (1.8 m length)



Bluetooth



Silent operating

CRISTEC is the only manufacturer offering 12V 70A chargers with natural convection (without fan) and waterproof. This advantage gives the YPOWER+ chargers a completely silent operation and an optimized lifespan. It is therefore possible to install them anywhere on board, including severe environment.



2 or 3 independent outputs

The YPOWER+ chargers have 2 or 3 independent outputs.



Low energy bluetooth

YPOWER+ chargers are equipped with a Bluetooth Low Energy (BLE), variant of "classic" Bluetooth. The major advantage of BLE is its low power consumption as it consumes half of a classic Bluetooth.



No derating

Chargers have full charge up to +40°C



Ignition protected

They can be installed in the engine room thanks to ISO8846/SAE J1171 compliance which protects against ignition of flammable gases.



Worldwide use

Automatic detection of power supply network, from 90 to 265VAC and from 47 to 65Hz. You do not have to care about AC grid voltage.



5-stage charging profile

- **Boost:** charges batteries to 80% of full charge
- **Absorption:** slowly completes remaining charge to 100%
- **Floating:** maintains battery charge
- **Automatic refresh:** prevents sulphation and revitalizes batteries, selectable by internal pushbutton
- **Reboost:** new automatic Boost phase if DC consumers and the state of batteries so require.

A regulated DC power-supply mode is also available : IP65 POWER+ chargers can be used as high-voltage DC-DC converters with input ranging from 121 to 375VDC.



Adaptative charging

Custom-made and simultaneous recharge of 3 independant battery banks. YPOWER+ chargers can be used with various types of batteries simultaneously:

- Opened classic lead
- Sealed, gel or AGM
- Spiral sealed



Lithium Iron Phosphate (LiFePO4) with BMS Selection of your technology of battery thanks to the front keypad.



Remote control

The chargers are fitted with a Bluetooth interface as standard. Can-Bus interface can be provided as option (please contact us). Connection to an NMEA network is also available through an optional adaptor, refer to charger's options page (p73).

NMEA

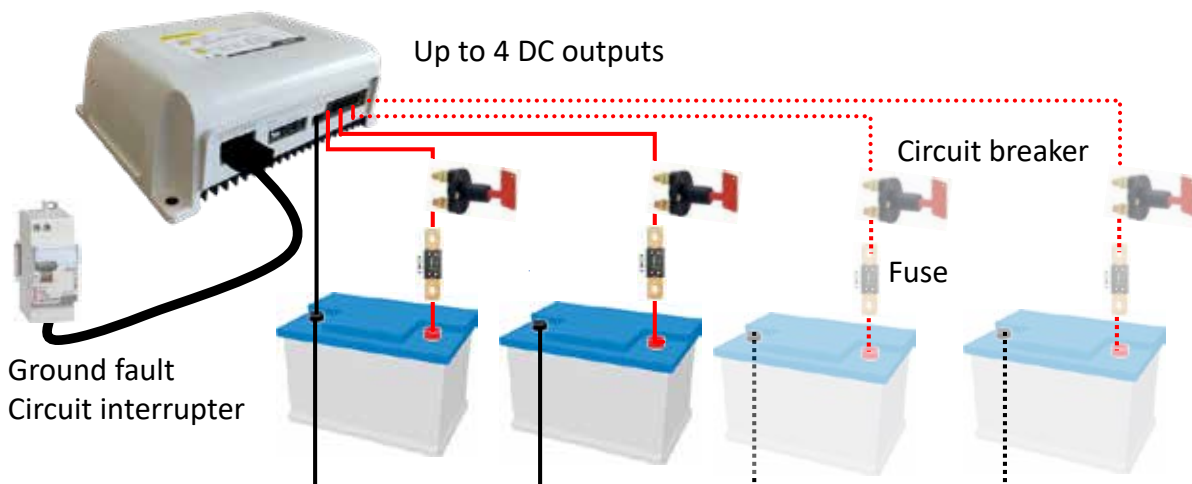


Part Number	YPO12-20STPL-IP	YPO12-30STPL-IP	YPO24-15STPL-IP
Model	12V/20A	12V/30A	24V/15A
Recommended battery bank**	100-200Ah	200-300Ah	100-200Ah
Input			
AC Voltage	From 90 to 265VAC single-phase automatic		
DC Voltage	From 121 to 375VDC		
Frequency	From 47 to 65Hz automatic		
Current consumed 230/115VAC	1.3/2.6A	2/4A	2/4A
Recommended power for a generator	450W	650W	650W
Power factor	1		
Efficiency	92.8% in 230VAC & 91% in 115VAC		
Input fuse	T6.3A/250V		T6.3A/250V
Output			
Number of battery banks	2	3	2
	Each bank can be used individually and delivers the rated current		
Nominal current (+/-7%) @ rated power	20A/276W	30A/414W	15A/414W
Charging curve	Charging curve selection by push-button, Bluetooth or CAN-Bus (Boost, Absorption, Floating and Refresh)		
Battery type	Sealed lead as factory setting - Gel, AGM, calcium lead, LiFePO4, DC power-supply mode, etc. Specific request on demand		
Boost voltage for sealed lead battery (factory setting)	14.4VDC		28.8VDC
Floating voltage for sealed lead battery (factory setting)	13.8VDC		27.6VDC
Peak to peak ripple and noise	< 2% (at rated conditions)		
Automotive fuses mounted in series in minus pole -BAT	1 x 30A/32V	2 x 30A/32V	1 x 30A/32V
Environment			
Cooling	Natural (fanless)		
Sound level	0 dB		
Operating T° at 230VAC	From -20°C to +60°C (-4°F to +140°F)		
Derating	from 60°C (140°F)	from 40°C (104°F)	from 40°C (104°F)
Storage T°	From -20°C to +70°C (-4°F to +158°F)		
Bluetooth	Low energy bluetooth (BLE) - Power: +9dBm (frequency: 2412-2484MHz)		
Casing			
Material	Aluminium sink frame and clasp / Thermoplastic body		
Dimensions (length, height, depth)	238 x 181 x 81mm (9.4 x 7.1 x 3.2 in) (without cables)		
Weight	2kg (4.4 lb)		
Fixing center distance	219 x 155mm (8.6 x 6.1 in)		
Fixing screw (wall)	4 M5 round head screws		
Protection factor	IP65		
Electronic card protection	IP65 waterproof sealed casing		
Standards			
CE declaration of conformity	Available on request		
CE / EMC	EN61204-3		
CE / Security	EN60335-2-29 - ISO8846/SAE J1171		
Protections			
	Against transient input overvoltage by varistor (Not covered by warranty) / Against output polarity reversal by fuses / Against short-circuits and output overloads / Against abnormal overheating		
Communication			
	Bluetooth (CAN-Bus on option)		
Options			
	Temperature probe & OTD probe (Over Temperature Device) ref: 2.8m: STP-UNI-2.8 / 5m: STP-UNI-5.0, BUS-CAN		

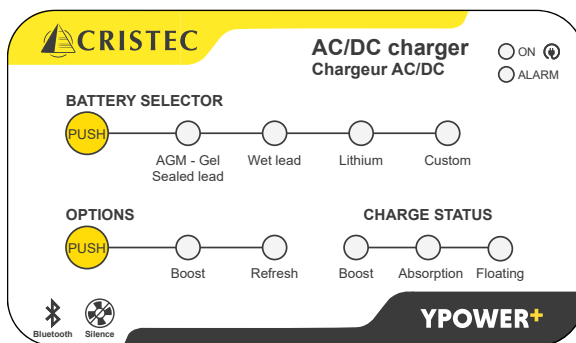
** Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.

AC-DC BATTERY CHARGERS YPOWER+

Typical installation

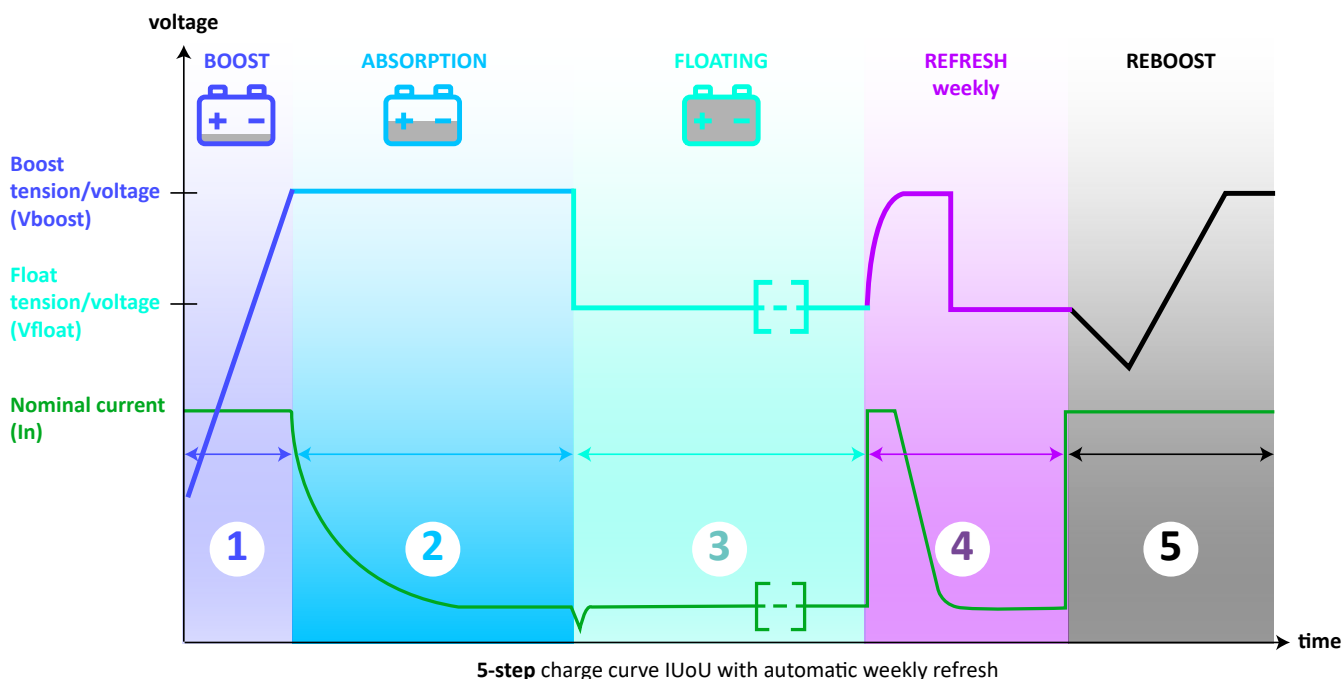


Choosing a charging curve



With the PUSH button of the BATTERY SELECTOR you can choose the battery technology and its associated charging curve. If you use the Bluetooth Cristec Connect application on your mobile phone or tablet and choose a different charging curve the CUSTOM led switches on.

When choosing any battery technology above, the BOOST charging curve from the OPTIONS menu is selected by default. When the PUSH button is pressed again, you select the **5-step charging curve** with BOOST and REFRESH as follows :



If no OPTIONS are selected (no green led is lit on the OPTIONS menu) the charging curve starts with the Float voltage.