Product Catalogue

EFOY Energy Solutions

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efoy-pro.com

MADE BY SFC ENERGY

Content

1 Introduction 3
2 Mobile energy solutions 4
2.1 EFOY ProCube 2030A-3 5
2.2 EFOY ProCube 2060A-3 7
2.3 EFOY ProCube 2060A-3 XF / ProFuelBox 2120A-3 9
2.4 EFOY ProEnergyCase 2020P-3 12
3 Stationary energy solutions 14
3.1 EFOY ProCabinet 2020S-3 15
3.2 EFOY ProCabinet 2020SX-3 17
3.3 EFOY ProCabinet 2130A-3 19
4 Customized solutions 21
5 Components installed in the energy solutions 22
5.1 Solar charge controller 22
5.2 Cable gland and connectors 23
5.3 Fuel Sensor FS2 24
5.4 Router for remote monitoring 25
5.5 DC/DC converter 26
5.6 Air filter 27
6 Additionally required components for energy solutions 28
6.1 EFOY fuel cell 28
6.2 EFOY fuel cartridge 29
6.3 EFOY Fuel Manager 30
6.5 Operating options 31
6.6 Batteries 32
7 Optional accessories for energy solutions 33
7.1 Mounting EFOY ProCabinet 2020S-3 and 2020SX-3 33
7.2 EFOY Cloud 34
7.3 Solar panels und solar accessories 35
8 Configuration table 36
9 Nomenclature of the variants 39

1 Introduction

As an energy solution provider, SFC Energy AG is continuously working on the development of complete energy solutions for different requirements. EFOY Pro energy solutions combine power generation by EFOY & EFOY Pro fuel cells and power storage by batteries in a mobile or stationary housing. At the same time, there is still sufficient room for customer-specific adaptations if required.

A distinction is made between stationary and mobile energy solutions. Furthermore, each energy solution can additionally be used in combination with solar systems.

2 Mobile energy solutions

Mobile energy solutions by SFC Energy AG are complete solutions that enable off-grid power supply. They are flexible and ready for immediate use at any location at any time.

On the one hand, they can be used in difficult-to-reach places for permanent power supply. On the other hand, they are used when a temporary power supply is needed.

EFOY ProCube 2030A-3 / 2060A-3

The EFOY ProCube 2030A-3 or 2060A-3 is a mobile, maintenance-free energy solution. In hybrid operation, the EFOY ProCube can be used, for example, as a back-up or extension for solar systems. The outdoor-ready aluminum box is preconfigured and can be individually equipped depending on the operating conditions by selecting the EFOY fuel cell, fuel cartridges and batteries.

EFOY ProCube 2060A-3 XF / ProFuelBox 2120A-3

The EFOY ProCube 2060A-3 XF ("external fuel") has space for up to four batteries, allowing the largest possible battery capacity among the mobile energy solutions. The fuel cell is supplied with methanol via external connection. Matching this, the EFOY ProFuelBox 2120A-3 serves as the optimal box for methanol supply. This combination offers the ideal solution for applications that require a longer self-sufficiency period.

EFOY ProEnergyCase 2020P-3

The EFOY ProEnergyCase 2020P-3 is also a complete solution with a robust housing. Due to its compact dimensions, the EFOY ProEnergyCase can be easily transported. Commissioning at the installation site can be carried out in a short time without any issue.

2.1 EFOY ProCube 2030A-3

Description of the basic equipment of the EFOY ProCube 2030A-3

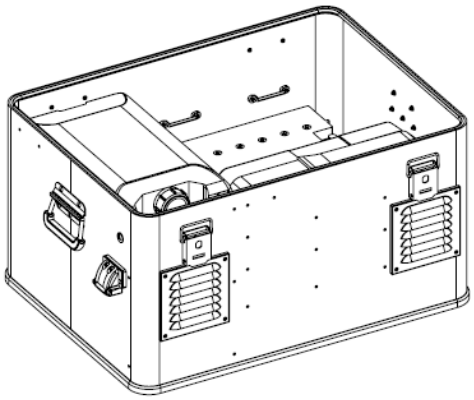
- Mounting plate for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Installation space for batteries
- Deep discharge protection
- Solar charge controller for Solar Hybrid System
- Installation space for one M28 fuel cartridge
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProCube 2030A-3

Dimensions (L x W x H)	807 x 581 x 417 mm
Housing	Aluminum housing with transport handles
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	440 x 220 x 230 mm (suitable for max. 1 x 130 Ah or 2 x 60 Ah)
IP class	IP33
Nominal voltage	12 V or 24 V DC possible
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible accumulators	EFOY Li 70/105, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	1 x M28 (with M28 adapter)
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProCube 2030A-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 090	EFOY ProCube 2030A-3 Basic	13.9 kg	Solar charge controller: Victron 15 A MPPT
153 002 091	EFOY ProCube 2030A-3 MPPT15-RUT240	14.4 kg	Solar charge controller: Victron 15 A MPPT Router: RUT240 and antenna



2.2 EFOY ProCube 2060A-3

Description of the basic equipment of the EFOY ProCube 2060A-3

- Mounting plate for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Installation space for batteries
- Deep discharge protection
- Solar charge controller for Solar Hybrid System
- Mounting plate for EFOY Fuel Manager
- Installation space for two M28 fuel cartridge
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProCube 2060A-3

Dimensions (L x W x H)	958 x 787 x 481 mm
Housing	Aluminum housing with transport handles
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	460 x 350 x 230 mm (suitable for max. 2 x 130 Ah)
IP class	IP33
Nominal voltage	12 V or 24 V DC possible
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible batteries	EFOY Li 70/105, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	2 x M28 (with M28 adapter)
Compatible EFOY Fuel Manager	EFOY FM2
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProCube 2060A-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 060	EFOY ProCube 2060A-3 Basic	20.6 kg	Solar charge controller: PWM2020
153 002 061	EFOY ProCube 2060A-3 MPPT15-MC4	20.9 kg	Solar charge controller: Victron 15 A MPPT PV connector: MC4
153 002 062	EFOY ProCube 2060A-3 MPPT35-MC4	23.5 kg	Solar charge controller: Victron 35 A MPPT PV connector: MC4
153 002 063	EFOY ProCube 2060A-3 PWM20-FS2-RUT240	21.3 kg	Solar charge controller: PWM2020 Fuel sensor: FS2 Router: RUT240 and antenna
153 002 064	EFOY ProCube 2060A-3 MPPT15-MC4-FS2-RUT240	21.5 kg	Solar charge controller: Victron 15 A MPPT PV connector: MC4 Fuel sensor: FS2 Router: RUT 240 and antenna
153 002 065	EFOY ProCube 2060A-3 MPPT35-MC4-FS2- RUT240	24.1kg	Solar charge controller: Victron 35 A MPPT PV connector: MC4 Fuel sensor: FS2 Router: RUT240 and antenna
153 002 066	EFOY ProCube 2060A-3 LS V3.0 Remote Monitoring	25.7 kg	Solar charge controller: Victron 35 A MPPT PV connector: MC4 Load connector: Souriau connector DC/DC converter: Orion-Tr24/24-5 (120 W) Fuel sensor: FS2 Router: RUT240 and antenna Air filter Data socket RJ45
153 002 067	EFOY ProCube 2060A-3 LS V3.0	25.1 kg	Solar charge controller: Victron 35 A MPPT PV connector: MC4 Load connector: Souriau connector DC/DC converter: Orion-Tr24/24-5 (120 W) Air filter Data socket RJ45

2.3 EFOY ProCube 2060A-3 XF / ProFuelBox 2120A-3

EFOY ProCube 2060A-3 XF

Description of the basic equipment of the EFOY ProCube 2060A-3 XF

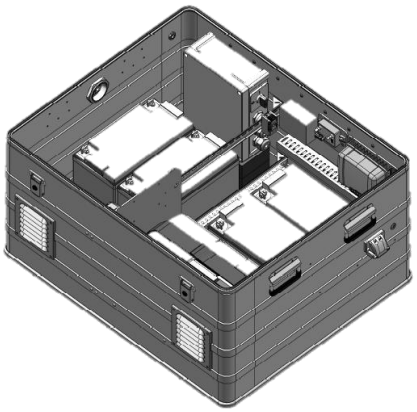
- Mounting plate for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Cable gland for fuel cartridge connections (EFOY fuel cartridges are located outside the ProCube 2060A-3 XF)
- Installation space for batteries
- Deep discharge protection
- Solar charge controller for Solar Hybrid System
- Mounting plate for EFOY Fuel Manager
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProCube 2060A-3 XF

Dimensions (L x W x H)	960 x 787 x 481 mm
Housing	Aluminum housing with transport handles
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	460 x 350 x 230 mm and 380 x 345 x 230 mm (suitable for max. 4 x 110 Ah)
IP class	IP33
Nominal voltage	12 V or 24 V DC possible
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible batteries	EFOY Li 70/105, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	Up to 4 x EFOY fuel cartridges (outside ProCube 2060A-3 XF)
Compatible EFOY Fuel Manager	1 x EFOY FM2 or 1 x EFOY FM4
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProCube 2060A-3 XF series

Part number	Product name	Weight (empty)	Installed components
153 002 070	EFOY ProCube 2060A-3 XF Basic	21.1 kg	Solar charge controller: Victron 15 A MPPT
153 002 071	EFOY ProCube 2060A-3 XF MPPT35/TS-BP-MC4-RUT240	24.2 kg	Solar charge controller: Victron 35 A MPPT PV connector: MC4 Router: RUT240 and antenna



EFOY ProFuelBox 2120A-3

Description of the basic equipment of the EFOY ProFuelBox 2120A-3

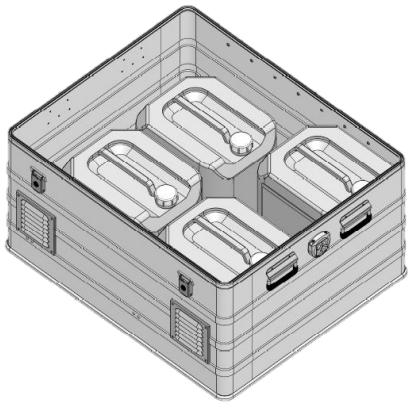
- Cable gland for fuel cartridge connections
- Installation space for 4 x M28 fuel cartridges
- Passive ventilation

General information EFOY ProFuelBox 2120A-3

Dimensions (L x W x H)	940 x 787 x 481 mm
Housing	Aluminum housing with transport handles
Operating temperature	-20°C to +50°C
IP class	IP33
Compatible EFOY fuel cartridges	4 x M28 (with M28 adapter)

Overview of variants of the EFOY ProFuelBox 2120A-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 130	EFOY ProFuelBox 2120A-3 Basic	12.0 kg	-
153 002 131	EFOY ProFuelBox 2120A-3 incl. FS2	12.1 kg	Fuel sensor: FS2



2.4 EFOY ProEnergyCase 2020P-3

Description of the basic equipment of the EFOY ProEnergyCase 2020P-3

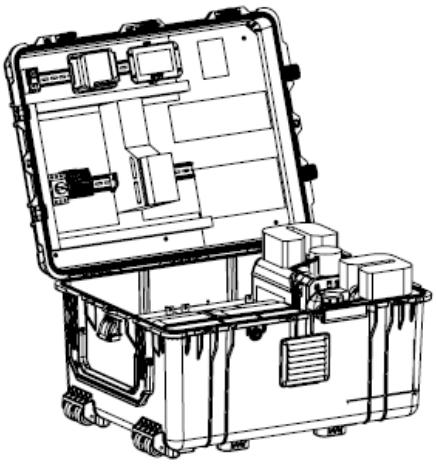
- Installation space for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Installation space for batteries
- Deep discharge protection
- Solar charge controller for solar hybrid system
- Installation space for EFOY Fuel Manager
- Space for 2 x M10 fuel cartridges
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProEnergyCase 2020P-3

Dimensions (L x W x H)	804 x 615 x 444 mm
Housing	Pelicase with transport handles and wheels
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	340 x 180 x 227 mm (suitable for max. 1 x 130 Ah) or 460 x 138 x 227 mm (suitable for max. 2 x 60 Ah)
IP class	IP33
Nominal voltage	12 V or 24 V DC possible
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible batteries	EFOY Li 70/105, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	2 x M10
Compatible EFOY Fuel Manager	EFOY FM2
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProEnergyCase 2020P-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 080	EFOY ProEnergyCase 2020P-3 Basic	22.5 kg	Solar charge controller: Victron 15 A MPPT
153 002 082	EFOY ProEnergyCase 2020P-3 MPPT15-FS2-RUT240	23.1 kg	Solar charge controller: Victron 15 A MPPT Fuel sensor: FS2 Router: RUT240 and antenna



3 Stationary energy solutions

EFOY ProCabinets are stationary energy solutions. The robust cabinet provides space for an EFOY fuel cell, batteries, solar charge controller and two or four fuel cartridges, depending on the model. EFOY ProCabinets are suitable for long term use, for example for isolated operations or as a back-up solution for an uninterrupted power supply.

EFOY ProCabinet 2020S-3

The EFOY ProCabinet 2020S-3 is a compact, semi-stationary energy solution that provides enough space for a small battery, two fuel cartridges and a fuel cell. The steel cabinet is optimal for pole or wall mounting and is often used in urban areas.

EFOY ProCabinet 2020SX-3

The EFOY ProCabinet 2020SX-3 is a stationary energy solution that can be used for long term operations in developed as well as in remote areas. The steel cabinet offers more space than the EFOY ProCabinet 2020S-3 and can accommodate up to two batteries, two fuel cartridges and a fuel cell. It can be mounted on a steel base or can be attached to a wall.

EFOY ProCabinet 2130A-3

The EFOY ProCabinet 2130A-3 is a robust, stationary power solution that is mounted on a concrete base. Similar to the ProCabinet 2020SX-3, the double-walled aluminum cabinet is optimal for long term operations especially in remote areas. The Cabinet can be equipped with up to two batteries, four fuel cartridges and a fuel cell, allowing it to run self-sufficiently without maintenance for a very long time.

3.1 EFOY ProCabinet 2020S-3

Description of the basic equipment of the EFOY ProCabinet 2020S-3

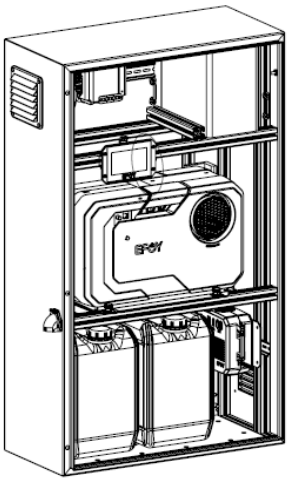
- Mounting plate for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Installation space for battery
- Deep discharge protection
- Solar charge controller for solar hybrid system
- Mounting plate for EFOY fuel cartridge manager
- Space for 2 x M10 fuel cartridges
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProCabinet 2020S-3

Dimensions (W x D x H)	655 x 328 x 1,000 mm
Housing	Coated steel cabinet with rotating handle, 2-point locking system
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	270 x 180 x 230 mm (suitable for max. 1 x 60 Ah)
IP class	IP33
Nominal voltage	12 V or 24 V DC possible
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible batteries	EFOY Li 70, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	2 x M10
Compatible EFOY Fuel Manager	EFOY FM2
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProCabinet 2020S-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 100	EFOY ProCabinet 2020S-3 Basic	55.0 kg	Solar charge controller: Victron 15 A MPPT
153 002 101	EFOY ProCabinet 2020S-3 MPPT15-FS2-RUT240	55.6 kg	Solar charge controller: Victron 15 A MPPT Fuel sensor: FS2 Router: RUT240 and antenna



3.2 EFOY ProCabinet 2020SX-3

Description of the basic equipment of the EFOY ProCabinet 2020SX-3

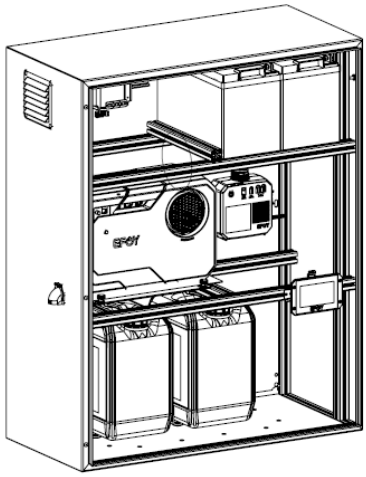
- Mounting plate for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Installation space for batteries
- Deep discharge protection
- Solar charge controller for solar hybrid system
- Mounting plate for EFOY fuel cartridge manager
- Space for 2 x M10 fuel cartridges
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProCabinet 2020SX-3

Dimensions (W x D x H)	855 x 428 x 1,000 mm
Housing	Coated steel cabinet with rotating handle, 2-point locking system
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	380 x 350 x 230 mm (suitable for max. 2 x 110 Ah or 2 x EFOY Li105)
IP class	IP33
Nominal voltage	12 V or 24 V DC possible
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible batteries	EFOY Li 70/105, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	2 x M10
Compatible EFOY Fuel Manager	EFOY FM2
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProCabinet 2020SX-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 110	EFOY ProCabinet 2020SX-3 Basic	75.0 kg	Solar charge controller: Victron 15 A MPPT
153 002 111	EFOY ProCabinet 2020SX-3 MPPT15-FS2-RUT240	75.6 kg	Solar charge controller: Victron 15 A MPPT Fuel sensor: FS2 Router: RUT240 and antenna



3.3 EFOY ProCabinet 2130A-3

Description of the basic equipment of the EFOY ProCabinet 2130A-3

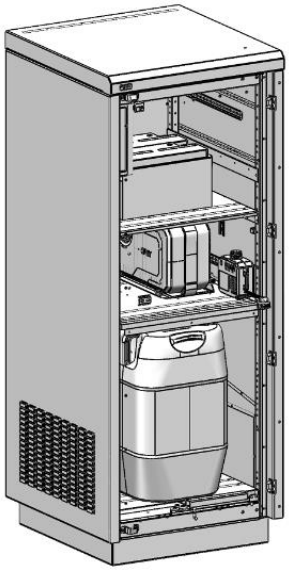
- Mounting plate for the EFOY fuel cell
- Electrical connection for the EFOY fuel cell
- Cable gland for external connections
- Installation space for batteries
- Deep discharge protection
- Solar charge controller for solar hybrid system
- Mounting plate for EFOY fuel cartridge manager
- Space for up to 2 x MT60 fuel cartridges
- Supply and exhaust air ducting
- Active ventilation at temperatures above +35°C
- Exhaust hose

General information EFOY ProCabinet 2130A-3

Dimensions (W x D x H)	772 x 817 x 1,919 mm
Housing	Double wall aluminum cabinet
Operating temperature	-20°C to +50°C
Installation space for batteries (L x W x H)	570 x 490 x 235 mm (suitable for max. 2 x 130 Ah)
IP class	IP54
Nominal voltage	24 V DC
Compatible EFOY fuel cells	EFOY 80/150, EFOY Pro 900/1800/2800
Compatible batteries	EFOY Li 70/105, Lead-Gel, Lead-acid, AGM, LiFePO4
Compatible EFOY fuel cartridges	4 x M28 or 2 x MT60
Compatible EFOY Fuel Manager	1 x EFOY FM2 or 1 x EFOY FM4
Compatible communication accessories	Operating Panel OP3 Bluetooth Adapter BT2

Overview of variants of the EFOY ProCabinet 2130A-3 series

Part number	Product name	Weight (empty)	Installed components
153 002 120	EFOY ProCabinet 2130A-3 Basic	152.0 kg	Solar charge controller: Victron 35 A MPPT
153 002 121	EFOY ProCabinet 2130A-3 MPPT35/TS-BP-FS2-RUT240	152.6 kg	Solar charge controller: Victron 35 A MPPT Fuel sensor: FS2 Router: RUT240 and antenna



4 Customized solutions

Every project has specific requirements. SFC Energy AG offers you the perfectly tailored energy solution. Depending on your needs, we make individual adjustments or develop customized solutions based on your special demands.

5 Components installed in the energy solutions

This chapter provides an overview of components that - depending on the configuration - are already installed in the energy solutions. The configuration table in chapter 8 shows which components are already installed in which energy solution variant.

5.1 Solar charge controller

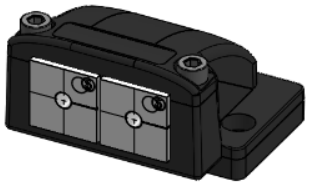
Each energy solution has a built-in solar charge controller. It enables the integration of an additional external charging source (e.g. PV modules) and also protects the batteries against deep discharge with its built-in deep discharge protection.

Depending on the variant, three different models of solar charge controllers are installed in the energy solutions. Which solar charge controller is installed in which energy solution variant can be found in the configuration table in chapter 8.

Further information on the technical details of the solar charge controllers can be found in the respective data sheets.

Solar charge controller	Technology	Max. Input current
PWM 20A (Steca Solarix PRS 2020)	PWM	20 A
MPPT 15A (Victron MPPT75/15)	MPPT	15 A
MPPT 35A (Victron MPPT 150/35)	MPPT	35 A

5.2 Cable gland and connectors



Each power solution has a cable plug that allows connection cables to be fed from the outside into the interior of the installation space. Cable plugs ensure that the passage is sealed and that no water can enter from the outside. In this way, both the load to be supplied and connected PV modules can be added to the energy solution. This type of connection is universally applicable, as no special connectors are required. Moreover, the connection is very well sealed against external weather influences.

In addition, some models of the energy solutions are already equipped with special connectors to provide the customer with an even easier plug & play connection. The range includes MC4 connectors for the integration of PV modules, a Souriau connector as a load connector option, and an RJ45 data socket for external access to the fuel cell's internal communications.

A cable gland is provided as standard in all energy solutions. Which other connectors are installed in which energy solution variant can be found in the configuration table in Chapter 8.

Connector	Description and function	Image
MC4 connector	Standard connector for connecting PV modules	
Souriau connector	4-pole plug for load connection (Water and dust resistant to IP68/69K)	
RJ45 data socket	Data socket for a standard RJ45 communication cable	

5.3 Fuel Sensor FS2

During the operation of the fuel cell, the consumption of methanol is calculated. Thus, the fuel cell can give you feedback on how much methanol is still available after a certain time. In case you need another safeguard to be warned when the fuel cartridges are at a low level, the FS2 fuel sensor is ideal.

The fuel sensor uses a light barrier to measure whether the level of the fuel cartridge is above or below the position of the sensor and passes on this information.

To find out which energy solution variant is already equipped with an FS2 fuel sensor, refer to the configuration table in chapter 8.

Sensor	Description and function	Image
Fuel Sensor FS2	Optical sensor for verification of fuel cartridge level (only one sensor per energy solution possible)	

5.4 Router for remote monitoring

The new generation EFOY fuel cells are internet-enabled and can be monitored and controlled via the EFOY Cloud platform (www.efoy-cloud.com).

To provide an internet connection in the EFOY energy solutions, there is the option of ordering configurations with router and antenna already installed. The router is already wired and connected. All that remains is inserting a SIM card, after which the EFOY fuel cell can be monitored via the EFOY Cloud.

You can find out which energy solution variant is already equipped with a router and antenna in the configuration table in chapter 8.

Router	Description and function	Image
RUT 240/ RUT 241[1]	Router for providing an Internet connection for the EFOY fuel cell	
Antenna	Outdoor-ready antenna for mounting on the housing of the energy solution	

[1]**Note**: Instead of the RUT240, the identical RUT241 can also be installed in the energy solutions.

5.5 DC/DC converter

For certain applications – e.g. sensitive measuring devices - it is necessary for the power supply to work at a precisely adjustable voltage value. This function can be guaranteed by the built-in DC/DC converter. This converter is connected between the battery and the load and can provide a precisely adjustable voltage level. This ensures safe operation of loads that operate at a voltage different from the voltage level of the battery.

Which energy solution variant is already equipped with a DC/DC converter can be found in the configuration table in Chapter 8.

DC/DC Converter	Description and function	Image
Orion-Tr 24/24	DC/DC converter to provide a defined voltage level; Input voltage range: 16 - 35 V Adjustable output voltage: 20 - 30 V	

5.6 Air filter

Depending on the installation site of the energy solution, it may be useful for the fuel cell to filter the supply air before it enters the energy solution. This is particularly interesting for locations in dusty environments or with salty air, where corrosion of the electrical components or the fuel cell occurs more rapid without an air filter.

The air filter is mounted as a fleece mat in front of the air inlet of the energy solution and helps protecting the components in the installation space from corrosion.

Which energy solution variant is already equipped with an air filter can be found in the configuration table in chapter 8.

Air filter	Description and function	Image
Fleece air filter	Filtering the supply air for the EFOY energy solution	

6 Additionally required components for energy solutions

This chapter includes the components that must be ordered together with an EFOY energy solution in order to put the energy solution into operation.

6.1 EFOY fuel cell

EFOY fuel cells are ideal power generators for a wide range of stationary and mobile applications, reliably generating electricity for weeks and months without any user intervention.

Installation in the energy solution is a simple plug and play installation due to the pre-installed accessories in the energy solution.

Part number	Description
158 000 001	EFOY 80 Basic
158 000 021	EFOY 150 Basic
158 000 041	EFOY Pro 900 Basic
158 000 061	EFOY Pro 1800 Basic
158 000 081	EFOY Pro 2800 Basic

Note: For installation the fuel cell in the EFOY energy solutions, it is sufficient to order the respective Basic Set of the EFOY fuel cell. All required accessories are already installed in the energy solution.

6.2 EFOY fuel cartridge

EFOY fuel cells by SFC Energy AG are powered with methanol. The methanol is filled into specially developed EFOY fuel cartridges. Depending on the demand, EFOY fuel cartridges are available in sizes of 10, 28 and 60 litres. High-purity methanol is required for reliable operation of EFOY fuel cells. To ensure the highest quality standards, every filling is monitored by SFC's quality management. Only when using original EFOY fuel cartridges, the guaranteed operating life of the fuel cell can be ensured.

Part number	Description
150 905 008	EFOY Fuel Cartridge M10
150 905 040	EFOY Fuel Cartridge M28
151 003 011	M28 adapter
150 905 124	EFOY Fuel Cartridge MT60

The M28 fuel cartridge requires an M28 adapter in order to be able to connect the EFOY fuel cartridge to the EFOY fuel cell or EFOY Fuel Manager.

6.3 EFOY Fuel Manager

The EFOY Fuel Manager (FM) makes it possible to operate several EFOY fuel cartridges on one EFOY fuel cell. Depending on the model, two or four fuel cartridges can be connected at once. The EFOY Fuel Manager automatically switches from the empty to the next full fuel cartridge and ensures a long autonomy time without user intervention.

Part number	Description
158 000 194	EFOY FM2 Set Energy Solutions
158 000 195	EFOY FM4 Set Energy Solutions

6.5 Operating options

The EFOY operating panel OP3 makes it easy to operate the EFOY fuel cell. With just a few clicks, you can view information on the fuel cell's current operation, such as the average charging time, the battery voltage, the current charging current, and the fuel cartridge fill level. Battery parameters can be adjusted to specific requirements at any time. You also have the option of retrieving data via bluetooth using the EFOY App. All you need is the EFOY bluetooth adapter.

Part number	Description
158 077 006	OP3 Industry Set
158 000 190	EFOY Bluetooth Adapter BT2 Set

6.6 Batteries

The right battery is essential for any energy solution. Therefore, SFC Energy AG offers special lead-gel batteries as well as self-developed lithium batteries, like the EFOY Li 70/ 105.

Part number	Description
155 000 032	EFOY Li 70/ 70 Ah/ 12 V
155 000 033	EFOY Li 105/ 105 Ah/ 12 V
153 079 007	Battery Lead Gel 12 V/ 60 Ah
153 079 008	Battery Lead Gel 12 V/ 90 Ah
153 079 009	Battery Lead Gel 12 V/ 110 Ah
153 079 010	Battery Lead Gel 12 V/ 130 Ah

For detailed information on EFOY fuel cells, EFOY lithium batteries, EFOY fuel cartridges and the EFOY Fuel Manager, please refer to the corresponding data sheets.

7 Optional accessories for energy solutions

This chapter provides an overview of the optional accessories that can be ordered in addition to the energy solution.

7.1 Mounting EFOY ProCabinet 2020S-3 and 2020SX-3

Both the EFOY ProCabinet 2020S-3 and the 2020SX-3 can be mounted on a wall. The EFOY ProCabinet 2020S-3 can also be fixed to a pole. In addition, there is a steel base for the EFOY ProCabinet 2020SX-3 that can be ordered separately.

Part number	Description
153 908 014	Wall mounting ProCabinet 2020S-3 and 2020SX-3 (Straps for fastening the ProCabinet to a rail on the wall or similar)
153 906 093	Pole mount ProCabinet 2020S-3 (Structure for mounting the ProCabinet 2020S-3 on a pole)
153 908 015	Steel base ProCabinet 2020SX-3 (10 cm high steel base for floor mounting of the ProCabinet 2020SX-3)

7.2 EFOY Cloud

EFOY fuel cells are often used in remote locations and require the option of secure remote access. With the EFOY Cloud, you can access your EFOY fuel cells from anywhere and monitor the current operation via laptop, tablet or smartphone. All you need is an internet connection to your fuel cells.

For example, you can track the current operating status of each of your fuel cells, historical data or fill levels of the EFOY fuel cartridges. Additionally, you can configure battery parameters as needed and receive firmware updates automatically. The integrated alarm management system informs you by e-mail, for example, about upcoming fuel cartridge changes or battery voltages that fall below a defined limit.

Part number	Description
158 920 007	EFOY Cloud License Basic 1 year
158 920 008	EFOY Cloud License Platinum 1 year

Function Basic License

- Read only
- Receive alarms
- Reset/Start/Stop possibilities

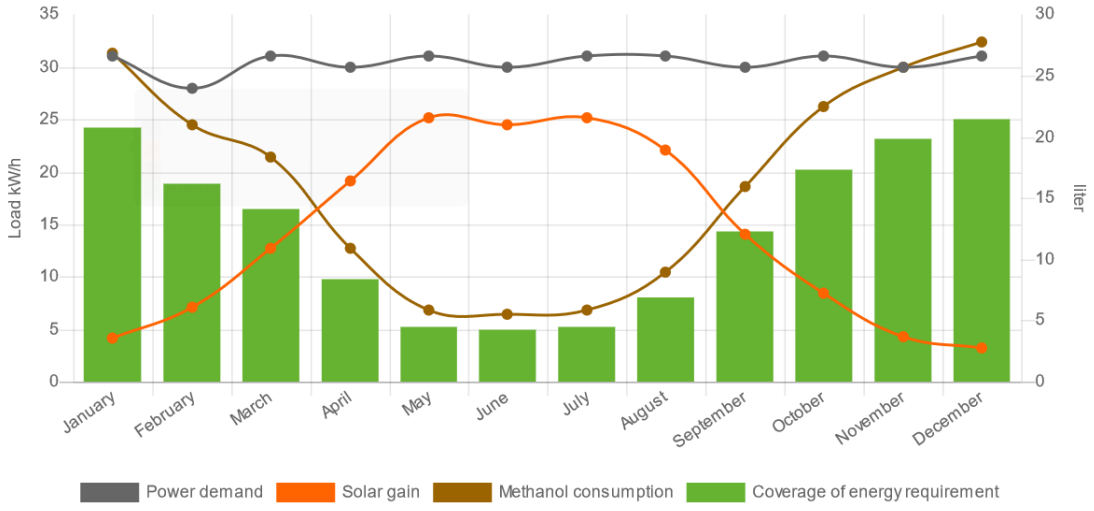
Basic license is bound to only one account.

Function Platinum License

- Access to all data
- Receive alarms
- Reset/Start/Stop possibilities
- Assign rights and roles

Platinum license allows access to multiple accounts.

7.3 Solar panels und solar accessories



The combination of solar system and fuel cell is ideal for year-round applications and supplies them with energy reliably and regardless of the weather.

Energy solutions can be equipped with solar module compatible connectors (MC4). SFC Energy AG offers the following solar panels. These should be selected according to installation location, space and mounting options. In addition, further accessories for the installation and connection of the solar panels are listed.

Part number	Description
153 906 030	Solar Panel 115 Wp 12 V Mono
153 906 026	Solar Panel 175 Wp 12 V Mono
153 906 031	Solar Panel 215 Wp 24 V Mono
153 906 027	Extension cable solar MC4, 6 mm², 10 m
153 906 047	Floor rack for solar panels (Provides space for two solar panels, up to max. 2 x 215 Wp)
153 906 041	Pole mount for solar panels (offers space for mounting two solar panels, up to max. 2 x 215 Wp)

*Solar panels must be selected in consideration of the respective solar charge controller.

8 Configuration table

	Components installed in the energy solution										Additionally required equipment												
Variant	PWM 20A	MPPT 15A	MPPT 35A	MC-4 (PV connector)	Data socket (RJ-45)	Souriau (load connector)	Fuel Sensor FS2	DC/DC Converter	Air filter	Router and antenna	EFOY fuel cell (new generation)	Lead 60 Ah	Lead 90 Ah	Lead 110 Ah	Lead 130 Ah	EFOY Li 70 12 V	EFOY Li 105 12 V	EFOY FM2	EFOY FM4	M10	M28	MT60
	Solar charge controller			Connectors			Further components				Fuel cell	Batteries (max. quantity)						Fuel Manager		Fuel cartridge (max. quantity)		
ProCube 2030A-3																						
153 002 090		x									1	2	1	1	1	1	1				1	
153 002 091		x								x	1	2	1	1	1	1	1				1	
ProCube 2060A-3																						
153 002 060	x										1	2	2	2	2	2	2	1			2	
153 002 061		x		x							1	2	2	2	2	2	2	1			2	
153 002 062			x	x							1	2	2	2	2	2	2	1			2	
153 002 063	x						x			x	1	2	2	2	2	2	2	1			2	
153 002 064		x		x			x			x	1	2	2	2	2	2	2	1			2	
153 002 065			x	x			x			x	1	2	2	2	2	2	2	1			2	
153 002 066			x	x	x	x	x	x	x	x	1	2	2	2	2	2	2	1			2	
153 002 067			x	x	x	x		x	x		1	2	2	2	2	2	2	1			2	

	Components installed in the energy solution										Additionally required equipment												
Variant	PWM 20A	MPPT 15A	MPPT 35A	MC-4 (PV connector)	Data socket (RJ-45)	Souriau (load connector)	Fuel Sensor FS2	DC/DC Converter	Air Filter	Router and antenna	EFOY fuel cell (new generation)	Lead 60 Ah	Lead 90 Ah	Lead 110 Ah	Lead 130 Ah	EFOY Li 70 12 V	EFOY Li 105 12 V	EFOY FM2	EFOY FM4	M10	M28	MT60
	Solar charge controller			Connectors			Further components				Fuel cell	Batteries (max. quantity)						Fuel Manager		Fuel cartridge (max. quantity)		
ProCube 2060A-3 XF																						
153 002 070		x									1	4	4	4		4		1	1			
153 002 071			x	x						x	1	4	4	4		4		1	1			
ProFuelBox 2120A-3																						
153 002 130																					4	
153 002 131							x														4	
ProEnergyCase 2020P-3																						
153 002 080		x									1	2	1	1	1	1	1	1		2		
153 002 082		x					x			x	1	2	1	1	1	1	1	1		2		

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	Components installed in the energy solution										Additionally required equipment												
Variant	PWM 20A	MPPT 15A	MPPT 35A	MC-4 (PV connector)	Data socket (RJ-45)	Souriau (load connector)	Fuel Sensor FS2	DC/DC Converter	Air filter	Router and antenna	EFOY fuel cell (new generation)	Lead 60 Ah	Lead 90 Ah	Lead 110 Ah	Lead 130 Ah	EFOY Li 70 12 V	EFOY Li 105 12 V	EFOY FM2	EFOY FM4	M10	M28	MT60
	Solar charge controller			Connectors			Further components				Fuel cell	Batteries (max. quantity)						Fuel Manager		Fuel cartridge (max. quantity)		
ProCabinet 2020S-3																						
153 002 100		x									1	1				1		1		2		
153 002 101		x					x			x	1	1				1		1		2		
ProCabinet 2020SX-3																						
153 002 110		x									1	2	2	2		2	2	1		2		
153 002 111		x					x			x	1	2	2	2		2	2	1		2		
ProCabinet 2130A-3																						
153 002 120			x								1	2	2	2	2	2	2	1	1		4	2
153 002 121			x				X			x	1	2	2	2	2	2	2	1	1		4	2

9 Nomenclature of the variants

EFOY ProCube 2060A-3 MPPT35/TS-BP-MC4/40A-FS2-RUT240

EFOY Series

Energy solution model

Configuration of installed components

Nomenclature of configuration	
MPPT15	Solar charge controller MPPT 15 A (incl. deep charge protection)
MPPT35	Solar charge controller MPPT 35 A
PWM20	Solar charge controller PWM 20 A (incl. deep charge protection)
TS	Temperature sensor for battery
MC4/40A	MC4 connector
MC4/30A	MC4 connector
FS2	Fuel Sensor
RUT240	Router and antenna
BP	Battery Protect (deep discharge protection)

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