

DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

Description	Power Backup BRAIN
Application	• Compatible with off-grid, battery and hybrid inverters with two three-phase AC connections up to 30 kW (see the compatibility list at https://enwitec.eu/produkt/enwitec-power-backup-brain-home-netzumschaltbox-10020055/) • Home Energy Management System
Region	D-A-CH
Consumer switchover	All-pole
Mould shape	3-phase 230/400 V – TN-C(S)/TN-S or TT systems; NO TN-C system in the customer's installation!
Inverter	See the compatibility list (https://enwitec.eu/produkt/enwitec-power-backup-brain-home-netzumschaltbox-10020055/)
Wallbox, heat pump, heating element	See the compatibility list (https://enwitec.eu/produkt/enwitec-power-backup-brain-home-netzumschaltbox-10020055/)
Control & Monitoring	EMS BRAIN HOME and mains monitoring relay

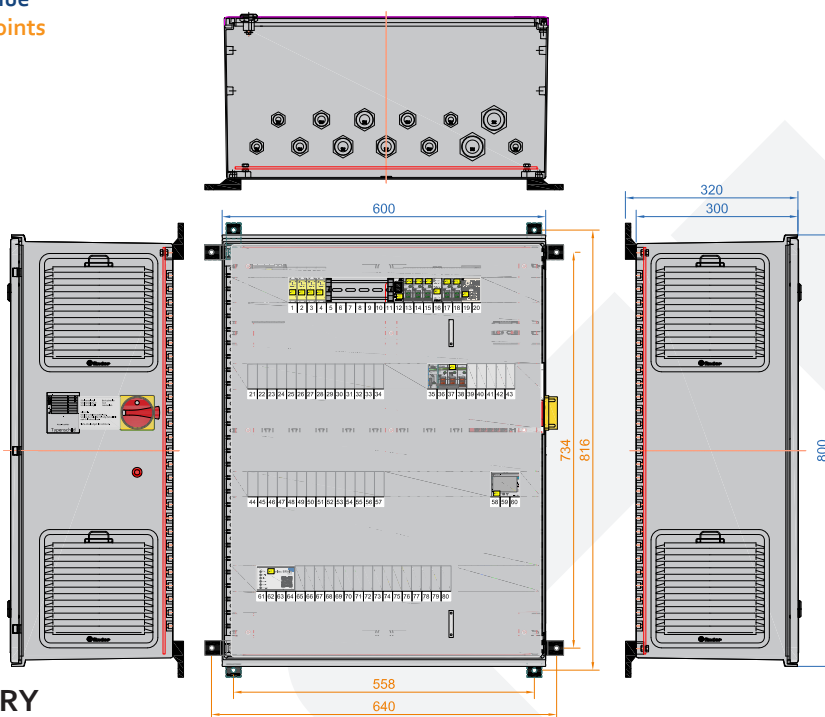
All dimensions are in [mm]

Dimensions , 'blue'
"orange" mounting points

Minimum distances

above	200
below	200
left	100
right	500
front	800

The internal layout and components may vary depending on the model!



SCOPE OF DELIVERY

Number	Description
1	Power Backup BRAIN
1	Manual
1	Backup list
1	Circuit diagram
4	M20 cable gland, including lock nut
4	M25 cable gland, including lock nut
3	M32 cable gland, including lock nut
2	M40 cable gland, including lock nut
2	Split seal set GFD25
4	EMT20 membrane inlet
4	EMT25 membrane feed-through

Number	Description
3	EMT32 membrane feed-through
2	Terminating resistor for bus
1	Sealing kit for energy meters
1	Handle for changeover switch - S1
2	Control cabinet key
1 set	Wall mounting brackets
1	Sticker – Indicates an off-grid-compatible storage system
1	Sticker: Switch operation
1	EMS Quick Guide
1	Installation and User Manual for Energy Meters

Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

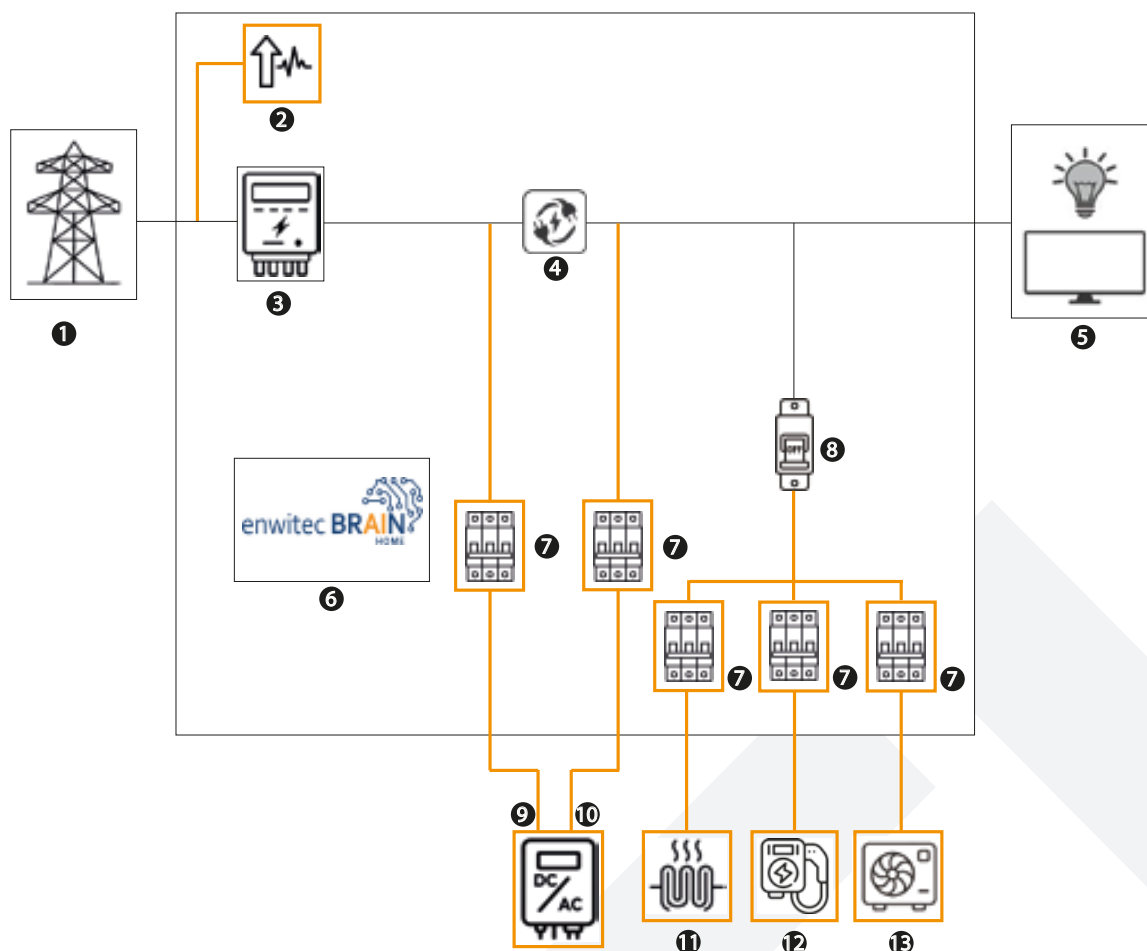
DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

CIRCUIT BOARD ENVIRONMENT



- ❶ Grid (network)
- ❷ Surge protection (optional, to be provided by the customer)
- ❸ Energy meter
- ❹ Toggle logic
- ❺ Household expenses
- ❻ enwitec BRAIN HOME energy manager
- ❼ Fuse and RCD (optional, to be provided by the customer)
- ❽ Shutting down high-power consumers
- ❾ Hybrid inverter connection to the grid (option to be provided by the customer)
- ❿ Hybrid inverter connection – backup (option to be provided by the customer)
- ⓫ Heating element (optional, to be provided by the customer)
- ⓬ Wallbox (optional, to be provided by the customer)
- ⓭ Heat pump (option to be provided by the client)

Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

www.enwitec.eu

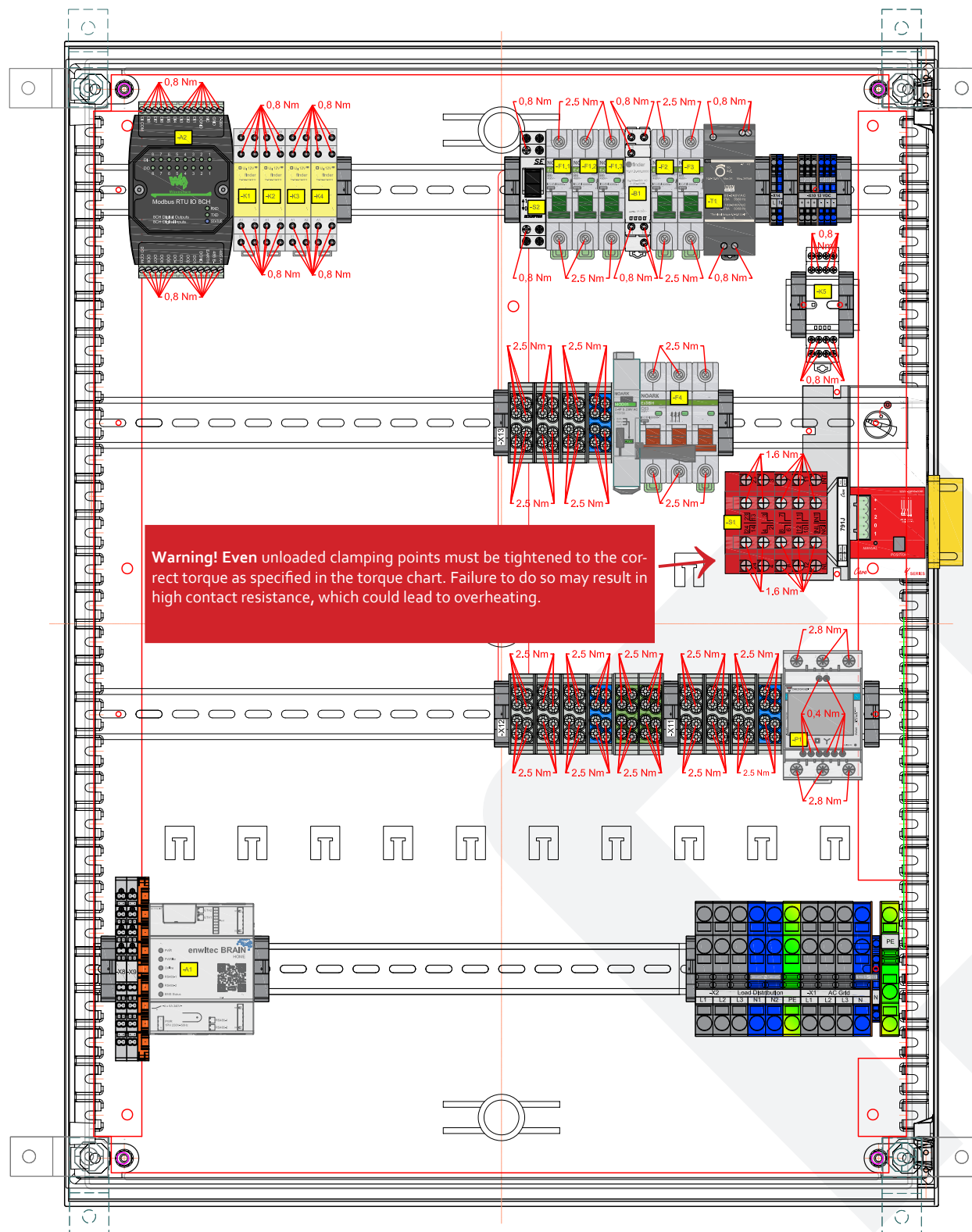
DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

TORQUES



Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

www.enwitec.eu

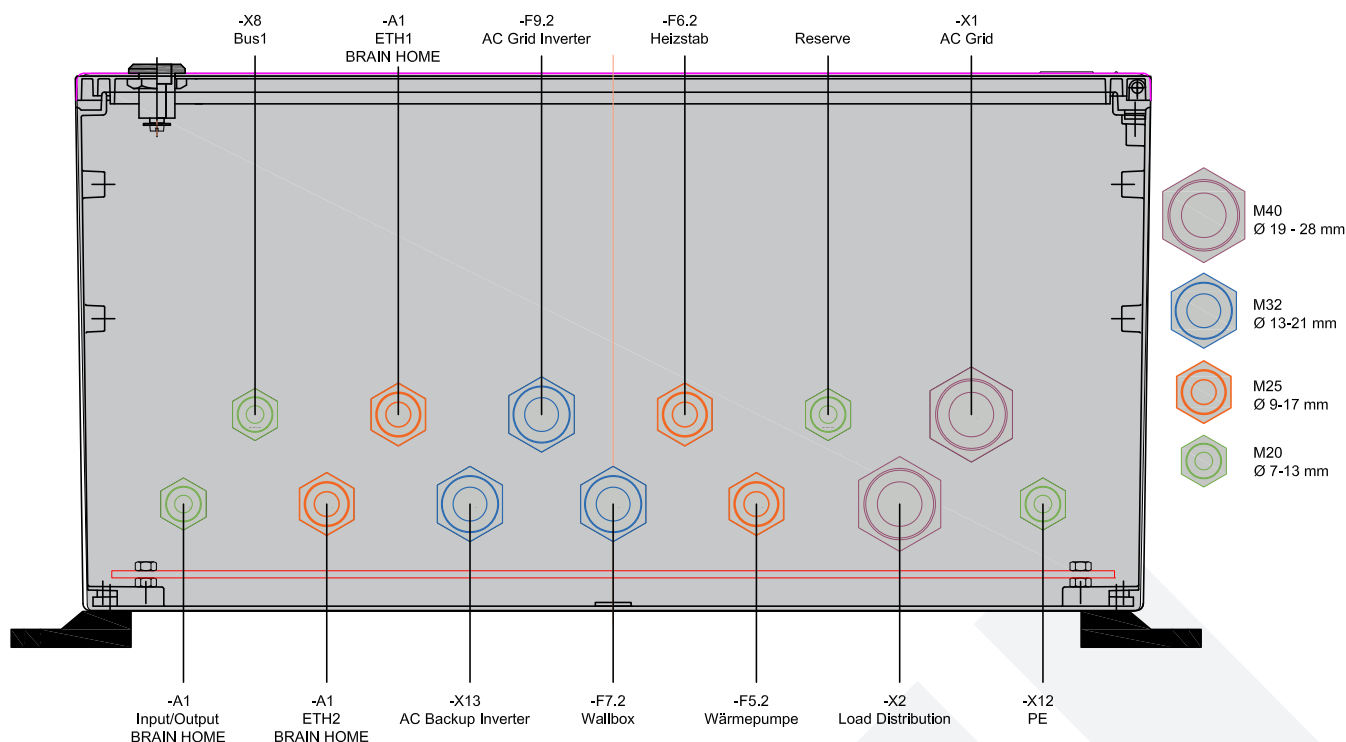
DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

CABLE ENTRY AND CONNECTIONS



Cable gland	Terminal block	Clamping range [mm]	Strand type Copper	Max. cross-sectional area [mm²]	Stripping length [mm]
 M40	-X1 – AC Grid	19 - 28	single-strand/multi-strand finely stranded finely stranded with ferrule	16 25 16	18 - 20
 M40	-X2 - Load Distribution	19 - 28	single-strand/multi-strand fine-stranded finely stranded with ferrule	16 25 16	18 - 20
 M20	-X8 - Bus 1	7 - 13	single-strand finely stranded finely stranded with ferrule	1,5 1,5 -	8 - 10
 M32	-F9.2 - AC Grid Inverter	13 - 21			
 M20	-X12 - PE	7 - 13	single-strand/multi-strand finely stranded reverse-stranded with ferrule	16 25 16	18 - 20
 M32	-X13 - AC Backup Inverter	13 - 21	single-strand/multi-strand finely stranded inely stranded with ferrule	25 - 16	19

Hexagonal pressing required!

Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

www.enwitec.eu

10020055-GB_DAT_UM-SK 30,0kW 04.00V 63A AP BRa Ü-400V50Hz (c)

© enwitec electronic GmbH

DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

CABLE ENTRY AND CONNECTIONS

Cable gland	Terminal block	Clamping range [mm]	Strand type Copper	Max. cross-sectional area [mm²]	Stripping length [mm]
 M20	-A1 - Input/Output BRAIN HOME	7 - 13	single-stranded finely stranded finely stranded with ferrule	1,5 1,5 -	19 - 20
 M25	-A1 - ETH1 (Ethernet1) BRAIN HOME	4 - 6	Data cable with RJ45 plug		
 M25	-A1 - ETH2 (Ethernet2) BRAIN HOME	4 - 6	Data cable with RJ45 plug		
 M25	-F5.2 - Heat pump	9 - 17			
 M25	-F6.2 - Heating element	9 - 17			
 M32	-F7.2 - Wallbox	13 - 21			
 M20	Reserve	7 - 13			
	-X11 – internal connection points for the energy meter		single-strand/multi-strand finely stranded finely stranded with ferrule Hexagonal pressing required!	25 - 16	19
	-X12 – internal connection points for high-power loads		single-strand/multi-strand finely stranded finely stranded with ferrule Hexagonal pressing required!	25 - 16	19
	-S1 – internal connection for backup inverter		single-strand/multi-strand finely stranded finely stranded with ferrule Four-sided pressing required!	6 - 16 6 - 16 6 - 16	15

Warning! Even unloaded clamping points must be tightened to the correct torque as specified in the torque chart. Failure to do so may result in high contact resistance, which could lead to overheating.

Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

www.enwitec.eu

10020055-GB_DAT_UM-SK 30,0kW 04,00V 63A AP BRa Ü-400V50Hz (c)

© enwitec electronic GmbH

DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

TECHNICAL DATA

NOMINAL VALUES	• applies / - does not apply	
Rated voltage U_n	[V]	3AC - 230/400
Rated insulation voltage U_i	[V]	400
Rated frequency f_n	[Hz]	50
Rated short-circuit withstand capacity I_{cw}	[N/A]	10
Permitted grid configuration		TN-C-S, TN-S, TT
Consumer switchover		all-pin
Max. mains-side backup fuse	[A]	63
Rated current of the I_{na} switchgear assembly	[A]	44

CIRCUIT BREAKERS AND RESIDUAL CURRENT CIRCUIT BREAKERS		
-F1.1/-F1.2/ -F1.3	Mains monitoring relay	MCB [A] B6
-F2	'Mains' control circuit	MCB [A] B6
-F3	'Backup' control circuit	MCB [A] B6
-F4	Shutting down high-power consumers	MCB [A] C63

ENERGY METERS		
-P1	Electricity Consumption/Feed-in: Direct Metering	[A] 63

SPACE SET ASIDE FOR INSTALLATION OF COMPONENTS BY THE CUSTOMER		
Installation of MCB and RCD for wallbox, heat pump, heating element and inverter	TE	35
Installation of surge protection	TE	4
Fitting of additional components	TE	12
Maximum permissible power dissipation. Components and wiring to be provided by the customer (components installed by the customer must be suitable for an ambient temperature of at least 60°C!)	[W]	60

SOURCE SELECTOR		
-S1	Switchover of loads	AC21 [A] 63

Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

DATA SHEET

ITEM NO. 10020055

Mains switch box with EMS

BRAIN Power Backup

TECHNICAL SPECIFICATIONS

GENERAL	• applies / - does not apply	
Dimensions WxHxD (excluding fastenings)	[mm]	600 × 800 × 300
Weight, approx.	[kg]	27,5
Operating temperature range	[°C]	-5...+35
Temperature – Transport/Storage (24 hours at 70°C)	[°C]	-15...+55
Humidity – condensation permitted		-
Humidity – permissible range	[%]	5...60
Degree of contamination		2
Maximum installation height above sea level	[m]	2000
IP protection rating (EN 60529)		30
Suitability for outdoor use (enclosed area)		-
Protection class (EN 61140)		II
Casing material		Polyester
RoHS-compliant (2011/65/EU)		•
Case colour		similar to RAL 7035
Lid		Hinged door
Installation method		Wall mounting
Type of fastening		Double-bar clasp

MISCELLANEOUS	
Customs tariff code	85371098

Status: (c)

The text and illustrations reflect the state of the art at the time of going to press; we reserve the right to make changes. Although every care has been taken, the information provided is subject to change without notice. No liability is accepted.

www.enwitec.eu