



**Switching, regulation and control technology
for caravan and motor home**

Product Catalogue
valid from 01. January 2009

Comfort on the move



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Ballasts

Ballasts with an energy-saving function for direct power supply to 12 V DC consumers in caravans. Automatic mains supply mode. Suitable for the power supply to e.g. water pumps, ventilators, light bulbs. High output thanks to efficient ventilation system in the housing.

Not suitable for consumers that need a filtered stabilized voltage, e.g. phono devices, electrical control systems and Truma boilers.

- Voltage Input: AC 230 V / 50 Hz
DC voltage 12 V from the battery
- Output: DC voltage 12 V
- Equipment: Automatic switching from mains supply to battery
Mains cut-off with manual switch on the fuse device
Mains supply socket
Plug connection 6.3 mm for 12 V-input/output
- Scope of delivery: 230 V-cable 1 m
Isolated flat pin bushing
Attachment screws

VS 35 Automatic



- Part No. C12400-01 VS 35 Automatic
- Output: 35 VA (Watt), continuous operation
- Dimensions (mm): L 135 x W 125 x H 75
- Weight: 1.5 kg

VS 50 Automatic



- Part No. C12400-02 VS 50 Automatic
- Output: 50 VA (Watt), continuous operation
- Dimensions (mm): L 135 x W 125 x H 75
- Weight: 1.7 kg

VS 100 Automatic



- Part No. C12400-03 VS 100 Automatic
- Output: 100 VA (Watt), continuous operation
- Dimensions (mm): L 200 x W 160 x H 100
- Weight: 2.5 kg

VS 200 Automatic



- Part No. C12400-04 VS 200 Automatic
- Output: 200 VA (Watt), continuous operation
- Dimensions (mm): L 200 x W 160 x H 142
- Weight: 4.6 kg

Converter

Modular-Electric-System MES and MES 2

Modules A, A2 and A3

Ballasts to supply any 12 V-consumers from the 230 V-network, with a changeover function from the mains supply to driving mode.

The modules A, A2 and A3 are **installed directly by the vehicle manufacturer** and can be individually expanded with the Module B and the Module C 1. The variants MES and MES 2 are not compatible.

MES

MES 250-3 or MES 400-3 / Modules A



Voltage Input: 160 V – 265 V ~, 50 – 60 Hz
Output: MES 250-3 / A 250 W,
MES 400-3 / A 400 W
Output: 12 V filtered and stabilised
Equipment: Circuit-breaker and fault current protective switch for 230 V-mains supply
Cage clamp terminal for potential compensation
Plug connection for tractive vehicle battery (9/13)
Flat pin fuse for 12 V-battery
12 V-distribution via flat pin connections
Interface to Module B

MES 2 (from 2008)

MES 2 -350 / Modules A2 and A3

The Module A2 can also be operated on its own. If the Module A3 is also added, the total output of the system is raised from 350 W to 550 W.



Voltage Input: 130 V – 264 V ~, 50 – 60 Hz
Output: A2 350 W,
A2 + A3 550 W
Output: 12 V filtered and stabilised
Equipment: Circuit-breaker and fault current protective switch for 230 V-mains supply
Cage clamp terminal for potential compensation
Plug connection for tractive vehicle battery (9/13)
Flat pin fuse for 12 V-battery
12 V-distribution via flat pin connections
Interface to Module B

MES and MES 2 / Module B

Expand the Module A to include the function of a charging device if the caravan is to be operated independently and has its own supply battery.

Thanks to the fitted solar control, the Module B also offers the option of connecting two solar panels, an under-voltage battery for the supply battery and a voltage booster to compensate current fluctuations and conduction losses between the battery in the tractive vehicle and the supply battery. Expansion is effected by simple plug connections, the basic cables are retained.

Equipment: Supply battery connections and solar panel connection via cage tension spring clamps
Socket connections for the tractive vehicle battery (10/11) and the battery temperature sensor
Changeover switch between the liquid or Gel-/AGM-batteries
Interfaces to the Module A (A2) and C1

MES / Module B



Part No.

C13100-01 MES / Module B

Charging current

Mains supply mode: 16 A (MES 250),
27 A (MES 400)

Reference line IUoU

Solar: max. 10 A, 2 panels a 85 W

Booster: max. 10 A

Under-voltage

monitoring: Off at 10.8 V, On at 12.5 V

Dimensions (mm): L 340 x W 130 x H 100

Weight: 1.3 kg

MES 2 / Module B



C13100-02 MES 2 / Module B

Charging current

Mains supply mode: 23 A (MES 350 A 2),
36 A (MES 350 A 2 and A 3 – 200 W)

Reference line IUoU

Solar: max. 12 A, 2 panels a 85 W

Booster: max. 10 A

Under-voltage

monitoring: Off at 10.8 V, On at 12.5 V

Dimensions (mm): L 250 x W 140 x H 100

Weight: 1.9 kg

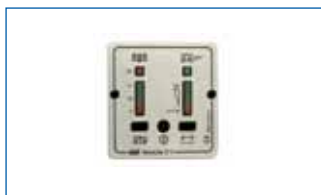
MES and MES 2 / Module C1

Display and switch panel in conjunction with Module A and Module B.

Shows the battery voltage and the filling level of the fresh water tank via color-graduated LED displays.

Limit value display when the waste water tank is 3/4 full.

Function display of the charging activity and illuminated main switch with EMERGENCY-ON function.



C13200-01 MES and MES 2 / Module C1

Equipment: Interface to the Module B
Socket connections for the fresh water and waste water sensor

Dimensions (mm): W 88 x H 93 x D 35

Weight: 70 g

Charging devices

Charging devices with state-of-the-art micro-processor-controlled switching technology for parallel and buffering mode.

Time and current-controlled IUoU-charging reference line.

Suitable for liquid or Gel-/AGM-batteries.

The withdrawn power is recharged immediately.

Mains supply fluctuations are compensated.

Reduction of the charging current when the device becomes too hot.

Charging phases:

Main charging up to 14.4 V (optional temperature-controlled)

Trickle charging 13.8 V (optional temperature-controlled)

Re-charging 4 h for liquid electrolyte batteries

10 h for Gel-/AGM batteries

Equipment:

Electrical wiring and overload protection

B+ input via cage tension spring clamp

Input 230 V via a cold device plug

Plug connection for optional battery temperature sensor

Switch between liquid or Gel-/AGM-batteries

Function display via an integrated LED

Charging devices LG 416-DS/IU and LG 616-DS/IU



Voltage input: 180 V – 250 V ~, 50 – 60 Hz

Charging current: max. 16 A

Battery capacity: 50 Ah – 160 Ah

Equipment: Charging current connections via cage tension spring clamps, clamp range 6 mm²

Scope of delivery: Mains power supply cable 1 m
Attachment screws and cable lugs

Dimensions (mm): L 215 x W 205 x H 85

Weight: 1.3 kg

Part No.

C12500-01 LG 416-DS/IU with one output



C12700-02 LG 616-DS/IU with two outputs
Optional charging control panel II

Equipment: Second charging output (e.g. for starter battery)
Integrated cut-of relay
Automatic D+ recording
Plug connection for charging control panel II

Scope of delivery: Fuse holder with fuse 30 A

Charging devices LG 430-DS/IU and LG 630-DS/IU



Voltage input: 195 V – 250 V ~, 50 – 60 Hz

Charging current: 30 A

Battery capacity: 100 Ah – 300 Ah

Equipment: Charging current connections via cage tension spring clamps – clamp range up to 16 mm²
Plug connection for charging control panel V

Scope of delivery: Mains power supply cable 1 m
Charging cable 1 m
Attachment screws and cable lugs

Dimensions (mm): L 302 x W 210 x H 100

Weight: 3 kg

C12500-02 LG 430-DS/IU with one output
Optional charging control panel V



Part No.

C12700-01 LG 630-DS/IU with two outputs
Optional charging control panel V

Equipment: Second charging output
(e.g. for starter battery)
Integrated cut-off relay
Automatic D+ recording
Plug connection for remote display
of all charging phases
(e.g. charging control panel V)

Scope of delivery: Fuse holder with fuse 40 A

Charging device LG 860-DS/IU



C12900-01 LG 860-DS/IU with three outputs
Optional charging control panel V

Voltage input: 97 V – 250 V ~, 50 – 60 Hz
Charging current: 60 A distributed to output 1 to 3
Battery capacity: 200 Ah – 600 Ah
Equipment: Charging current connections via cage
tension spring clamps – clamp range
up to 16 mm²
Plug connection for charging
control panel V
Charging current connections
via screw terminals
CAN BUS connection

Scope of delivery: Mains power supply cable 1 m
Charging cable 1 m for second
Battery fuse holder with fuse 80 A
Attachment screws and cable lugs

Dimensions (mm): L 400 x W 290 x H 110

Weight: 4.5 kg

Charging control panel II

Panel used to display charging activity and parallel switching with the starter battery in conjunction with the charging device LG 616-DS/IU with 2 battery outputs.



C14300-02 Charging control panel II

Dimensions (mm): W 54 x H 45 x D 25

Weight: 15 g

Scope of delivery: 4-pin control cable, 5 m
Attachment screws

Charging control panel V

Panel used to display charging phases, the parallel switching with the starter battery, and any charging malfunctions in conjunction with the charging devices LG 430-DS/IU, LG 630-DS/IU and LG 860-DS/IU with one or two battery outputs.



C14300-03 Charging control panel V

Dimensions (mm): W 100 x H 80 x D 20

Weight: 35 g

Scope of delivery: 7-pin control cable, 5 m
Attachment screws

Compact electric system

Electrical supply EVS 17/16-DS/IU and EVS 36/30-DS/IU

Multifunctional electrical supply (EVS) for campers with a charging unit that uses state-of-the-art switching technology. Time and current-controlled IUoU-charging reference line.

The withdrawn power is recharged immediately.

Mains supply fluctuations are compensated. Reduction of the charging current when the device becomes too hot.

The Bord Control or the Check Panel can be used as an ideal supplement.

Charging phases:

Main charging up to 14.4 V (optional temperature-controlled)

Re-charging 4 h for liquid electrolyte batteries

10 h for Gel-/AGM batteries

Trickle charging up to 13.8 V (optional temperature-controlled)

Equipment: Electronic wiring and overload protection

Tremat switch (automatic battery parallel switching)

230 V-fuse by means of a LS/FI-unit (personal protection)

230 V-input/output via lockable Wieland-plug connections

Screw connection for potential compensation

Plug connection to the Bord Control or Check Panel

Plug connection for external battery temperature sensor

Switchover unit for fridge operation 12 V for absorber or compressor mode

6 fused 12 V-circuits, starting from multi-pin MNL-plug connectors

12-pin MNL-plug connector for input batteries one and two, measuring lines B+ and D+ (from the dynamo), minus and charging current line

Switch-over unit between liquid or Gel-/AGM-batteries

Scope of delivery: Mains input/output plug with contacts

12 V-input plug, MNL-12-pin pre-assembled

Cable strand consumer with distributor terminal

Withdrawal tool for flat plug fuses

Attachment screws and washers

EVS 17/16-DS/IU



Voltage input: 230 V(180 – 250 V) ~, 50 – 60 Hz

Output: 12 V

Charging current: 16 A

Battery capacity: 50 Ah – 160 Ah

Scope of delivery: MNL-4-pin plug with contacts
for additional 12 V-distribution

Dimensions (mm): L 274 x W 190 x H 125

Weight: 2.3 kg

Part No.

C12300-01

EVS 17/16-DS/IU

EVS 36/30-DS/IU



Voltage input: 230 V (195 V – 250 V) ~, 50 – 60 Hz

Output: 12 V

Charging current: 30 A

Battery capacity: 100 Ah – 300 Ah

Dimensions (mm): L 302 x W 210 x H 145

Weight: 3.7 kg

C12300-02

EVS 36/30-DS/IU



All system components are ideally matched and can be combined with each other.

Check Panel 20

This is used to switch and monitor all important functions in the camper and is a sensible supplement to the electrical supply units EVS 17/16 and EVS 36/30; it has a digital display to show the current from two 12 V-batteries. Filling level display for the fresh water and waste water tanks with five levels. Automatic monitoring of the filling levels with a warning function when the level of the fresh water tank is undercut and when the waste water tank is more than 3/4 full.

Display showing the charging activities of the electrical supply unit. Mains connection display via a plug symbol, this also acts as the charging control display. Symbol display for parallel charging of the starter and supply battery. Integrated battery guard function with a pre-warning level indicated by a symbol.

Key for

- Check Panel On and control switching for the consumer relay in the electrical supply and EMERGENCY-ON function for short-term supply to the consumers when the battery is low.
- Pump control system
- Temperature query inside and outside temperature
- Tank query freshwater and waste water
- Optional control function



Scope of delivery: Graded filling level sensor for fresh water and waste water tanks (tank height 380 mm)
5-wire tank cable (5 m) for
Fresh water and waste water sensor
7-wire info cable (5 m) to the
EVS 17/16 or EVS 36/30
Temperature sensor (5 m) for
inside and outside temperature
Attachment screws

Dimensions (mm): W 138 x H 90 x D 40

Weight: 130 g

Part No.

C14100-01

Check Panel 20

Bord Control 722

This is used to switch and monitor all important functions in the camper and is a sensible supplement to the electrical supply units EVS 17/16 and EVS 36/30; it has an illuminated display for showing the current from two 12 V-batteries.

Filling level display of the

- Fresh water tank in five levels and the waste water tank in one level
- Filling level of the waste water tank as a limit value at 3/4-full

LED-display of the

- Charging activities of the electrical supply unit.
- Parallel charging of the starter and supply battery.
- Switch setting for main and pump switch

Integrated battery monitor with EMERGENCY-ON function for brief supply to the consumers when the battery is low via the main switch. Central pump switch.



Scope of delivery: Graded filling level sensor for fresh water tank (tank height 380 mm)
5-wire tank cable (5 m) for
Fresh water sensor
Two water tank sensors (rubber)
for waste water tank
2-wire tank cable (5 m) for waste water
sensors 7-wire info cable (5 m) to the
EVS 17/16 or EVS 36/30
Attachment screws

Dimensions (mm): W 198 x H 92 x D 15

Weight: 135 g

C14200-01

Bord Control 722

Control Panels

Bord Control 501

Battery control board to measure voltage from two 12 V-batteries (e.g. starter and supply battery) via a three-colored LED chain.



Part No.

C14200-02 Bord Control 501

Equipment: LED-chain, three-colored
selection switch Battery I or II
Plug connector behind on the circuit board
Reverse voltage protection

Scope of delivery: Measuring cable set 5 m for two batteries
Attachment screws

Dimensions (mm): W 100 x H 80 x D 20

Weight: 100 g

Bord Control 506

Control board for filling level display of the fresh water and waste water tank. The filling level is queried using a key via the 5-level fresh water filling level sensor or via the 5 contact sensors that are attached to the side of the waste water tank (hole diameter 9.5 mm). The display comprises a 4-level LED chain.



C14200-03 Bord Control 506

Power supply: 12 V DC voltage

Equipment: LED-chain,
Selection switch Tank I or II
Plug connector behind on the circuit board

Scope of delivery: Filling level sensor 5-rod for fresh water
5 contact sensors for waste water
Battery cable set 5 m
2 tank cable sets each 5 m
Attachment screws

Dimensions (mm): W 100 x H 80 x D 20

Weight: 100 g

Bord Control 517

Switch board for main switch and four thermal-triggered fuse devices (overload safety switch) for fusing 12 V-consumer circuits.



C14200-04 Bord Control 517

Equipment: Main switch 20 A, resistant
Four 12 V-circuits,
I = 10 A, II = 7 A, III = 7 A,
Fridge = 12 A
(not via the main switch)

Scope of delivery: Flat pin bushing, attachment screws

Dimensions (mm): W 100 x H 80 x D 80

Weight: 80 g

Control units

Accucare BW 35 / 35 A and BW 120 / 120 A

Battery guards protect the battery from total discharging and sensitive devices from overloads by automatically cutting off the consumers. The devices need to be connected between the battery and the consumer.

Voltage: 10 – 15 V
 Power draw: 1,8 mA from the battery for the electronics
 Switching thresholds: Off at 10.8 V, On at 12,5 V
 EMERGENCY-ON for 3 min.



Part No.

C13300-01 Accucare BW 35 / 35 A

Switching current: max. 35 A via bistable relay
 Equipment: Connection for external EMERGENCY-ON switch
 Cage tension spring clamps for inputs and outputs

Scope of delivery: Attachment screws
 Dimensions (mm): L 98 x W 88 x H 44
 Weight: 140 g



C13300-02 Accucare BW 120 / 120 A

Switching current: max. 120 A via bistable relay
 Equipment: Measuring line B+ and Minus, connection plug for Accu-Panel
 Screw terminals for inputs and outputs

Scope of delivery: Attachment screws
 Dimensions (mm): L 205 x W 145 x H 85
 Weight: 1 kg

Accu-Panel for BW 120

Under-voltage alarm as an accessory to the Accucare BW 120

- with red flashing LED (activated at 11 V) before the consumer output of the Accucare BW 120 is cut off and
- with acoustic interval signal as soon as the device has been cut-off (at approx. 10.8 V).

C14300-01 Accu-Panel for BW 120

Scope of delivery: Connection cable 5 m, attachment screws
 Dimensions (mm): L 58 x W 40 x H 25
 Weight: 50 g



Batteryguard

The electronic fridge switch prevents the starter battery from discharging by automatically switching the fridge on and off when the motor is started or turned off. Easy assembly thanks to installation in the fridge supply line.



C13320-01 Batteryguard

Voltage: 12 V
 Switching current: 20 A (continuous load)
 Power draw: – during active operation 110 mA
 – in stand-by mode 15 mA

Switching thresholds: On >13 V
 Off <13 V.

Equipment: Plug connections for input and output
 Scope of delivery: Attachment screws
 Dimensions (mm): L 136 x W 53 x H 41
 Weight: 150 g

High-performance relay

Cut-off relay with integrated protective circuit to protect the dynamo against reverse voltage and to delete peak current loads. After the motor has been turned off, it disconnects the starter battery from the supply battery.



Part No.

C11000-01000 High-performance relay

Switching current: max. 70 A

Continuous current: 50 A

Dimensions (mm): L 26 x W 29 x H 58

Weight: 50 g

Scope of delivery: Flat pin bushing and attachment screws

Tremat TS 70

The battery cut-off unit disconnects the starter battery from the supply battery if necessary when at a standstill and also during driving. With a protective circuit to protect against peak current loads and reverse voltage including a fridge cut-off relay.



C13460-01 Tremat TS 70

Switching current: Cut-off relay 12 V / 70 A

Fridge relay 12 V / 20 A

Power draw: 1,8 mA from the battery for the control electronics

Equipment: Terminal strips for inputs and outputs
LED-signal connection

Scope of delivery: Attachment screws

Dimensions (mm): L 98 x W 88 x H 44

Weight: 180 g

Charging current distribution unit Stromat SV1-70 and SV1-120

For joint charging of up to three separate batteries. Each battery can have its own charging current source or all batteries can be supplied via the same current source. If one of the batteries reaches a voltage of over 13.8 V, the batteries are switched together, if the battery voltage drops below 13 V the batteries are automatically disconnected from each other.



C13450-01 Stromat SV1-70

Input: 10 – 15 V \equiv

Continuous current: 50 A / max. 70 A

Equipment: Screw connections 10 mm²

Plug connection 6.3 mm²

Scope of delivery: Flat pin bushing 6.3 mm

Dimensions (mm): L 98 x W 88 x H 44

Weight: 180 g



C13450-02 Stromat SV1-120

Input: 10 – 15 V \equiv

Continuous current: 100 A / max. 120 A

Equipment: Screw connections 25 mm²

Plug connection 4 mm²

Scope of delivery: Attachment screws

Dimensions (mm): L 205 x W 145 x H 85

Weight: 1 kg

D+ Detector

For automatic recording of the charging process of the dynamo. Alternatively, if it is difficult to tap the D+ control contact of the dynamo or if there is no dynamo.



Part No.	C13330-01	D+ Detektor
Input:	12 V \equiv	
Output:	12 V	
Load:	1 A	
Power consumption:	1,7 mA	
Equipment:	Electronic, short-circuit-resistant, reverse voltage and overload protection Connection cable to the battery 0.5 m (2-pin) and to the charging unit or the relay 1.5 m (1-pin)	
Scope of delivery:	Flat pin bushing 6.3 mm, 2 cable ties	
Dimensions (mm):	L 45 x W 30 x H 15	
Weight:	50 g	

Voltage booster SL 10-1

Booster with switching technology with a constant output voltage for rapid charging of the caravan battery during driving.

With integrated fridge cut-off relay.

Suitable for liquid or Gel-/AGM-batteries.



Part No.	C13440-01	Voltage booster SL 10-1
Input:	12 V \equiv	from starter battery Range 10 – 15 V
Charging voltage:	14,2 V \equiv	stabilized, residual ripple < 1 %
Charging current:	7 A,	IU-Reference line during driving
Battery capacity:	50 Ah – 100 Ah	
Equipment:	Reverse voltage and overload protection via plug fuse outside Plug fuse for fridge output Plug connections 6.3 mm for inputs and outputs	
Scope of delivery:	Flat pin bushing, attachment screws	
Dimensions (mm):	L 119 x W 156 x H 66	
Weight:	550 g	

DC-Matic-24/12 V / 35 A

Converter with switching technology for charging batteries in two DC networks (24 V / 12 V) with forwards and reverse modes. The starter battery is kept fit for the starting process during longer standstills. Internal losses and small consumers are compensated.

Suitable for liquid or Gel-/AGM-batteries.



Part No.	C13340-01	DC-Matic-24/12 V / 35 A
Input/output I:	20 – 30 V \equiv	from starter battery
Input/output II:	10 – 15 V \equiv	from onboard battery
Charging current I:	35 A,	IU-Reference line during driving
Charging current:	max. 4 A	IU-Reference line when charging from the mains
Equipment:	Clamp connections 2,5 mm ² Clamp connections 10 mm ²	
Scope of delivery:	Attachment screws	
Optional:	Temperature sensor for temperature-controlled battery charging Operating display via external LED	
Dimensions (mm):	L 180 x W 195 x H 95	
Weight:	1.5 kg	

Mains supply monitoring devices

Netzmatic-LS/FI 10 A / 30 mA

Line protection unit with integrated FI-circuit breaker (for personal protection) for optimized security of the 230 V-system in the caravan and camper, TÜV, GS-approved.



Part No.

C13380-01 Netzmatic-LS/FI 10 A / 30 mA

Equipment: 2-pin line circuit breaker
triggers in case of overload at 10 A
FI-circuit breaker cuts off at 30 mA
Screw connections and strain relief
for inputs and outputs
Terminal strip for protective conductor
and potential compensation

Scope of delivery: Attachment screws

Dimensions (mm): L 135 x W 125 x H 80

Weight: 500 g

Netzprotector 3000

Over-voltage protection unit for 230 V-consumers for installation between CEE-input socket and the LS- or LS/FI-circuit breaker in the vehicle.



C13390-01 Netzprotector 3000

Input: AC 130 V - 300 V

Output: AC 230 V (max. 272 V)

Output: 3.8 kW, continuous operation

Voltage resistant: up to 1800 V

Equipment: Automatic cut-off during overload
Re-activation after 6 seconds
Test function via red key
for functional capability
Green control lamp shows
operational readiness
Connection cable 1 m

Scope of delivery: Attachment screws

Dimensions (mm): L 135 x W 125 x H 75

Weight: 600 g

Accessories

Temperature sensor for battery

Allows temperature-controlled battery charging in conjunction with a suitable charging device.



Part No.

C11000-00100 Temperature sensor I/A/B 2 m
for battery with 2 m connection cable and
attachment material

C11000-00200 Temperature sensor I/A/B 6 m
for battery with 6 m connection cable and
attachment material

Quickpower terminal clamps

Fast battery terminal clamps for fast connection of battery connections, simple and easy manual assembly. Suitable for all DIN and SAE conform connections.



C11000-02000 Quickpower terminal clamps

For loads: 150 A continuous load, 800 A brief load
Cable cross-section: up to 35 mm²
Resistance: approx. 0.12 mOhm at 10 A
Type: Plus terminal = red,
Minus terminal = blue

Fuse block for 6-fuses

Fuse block with 6 flat fuses, 5.3 mm. Short-circuit fuse and line protector for battery lines and main battery lines to prevent cable and vehicle fires.



C11000-03000 Fuse block for 6-fuses

Scope of delivery: 6 flat fuses
2 x 30 A, 1 x 20 A, 2 x 10 A, 1 x 2 A
Attachment screws
Dimensions (mm): L 230 x W 22 x H 38

Distributor blocks VL 09 and VL 10

Distributor terminals for collating or distributing minus lines.

Mounting rail: Copper, nickel-plated
Feet: Plastic, rotating



C11000-04000 Distributor block VL 09
Very solid design

Connections: Screw connections made
of brass electro-plated,
4 x M8, 5 x M6
For loads: acc. to GL-standard 400 A
acc. to VDE-standard 500 A
Dimensions (mm): L 230 x W 22 x H 38



C11000-04100 Distributor block VL 10

Connections: Clamp connections made of plastic /
steel electro-plated,
1 x 35 mm², 10 x 4 mm²
For loads: acc. to GL-standard 90 A
acc. to VDE-standard 125 A
Dimensions (mm): L 120 x W 44 x H 58

Handling systems

Trailer scales

Precision trailer scales for checking the trailer load of the caravan, boat trailer etc.

Measuring range: 20 – 80 kg
10 kg scale
Dimensions (mm): L 30 x W 30 x H 450
Weight: 850 g



Part No.

C10000-00100 Trailer scales without a spirit level



C10000-00200 Trailer scales with a spirit level (water-level) allows the caravan to be exactly leveled when being parked.

Water comfort

Filling level sensors

Sensors for measuring the filling level in five stages (0 – 1/4 – 1/2 – 3/4 – 1/1) for the fresh water and waste water tanks. Cannot be used for fuel tanks. Suitable for tanks with an outside height of 380 mm.

The contact rods can be modified to the respective tank height as specified in the enclosed shortening table. The filling level query is performed externally at the touch of a button, e.g. via a panel or via the Bord Control.



Part No.

C41100-01 Filling level sensor outside 5-rod

3 types of attachment to the tank possible

- 3/4" thread in the tank
- 3 screws from above
- attachment nuts from below

Scope of delivery: Counter nut and flange seal



C41100-02 Filling level sensor 5-rod 380 mm

Attachment on the tank

- through the cleaning opening with the screw connection from above

Scope of delivery: PG 29-screw connection with sealing ring

Sale and Delivery Conditions

1. General

Our Conditions shall be deemed to have been agreed once and for all, even if we do not expressly contradict counter-confirmations which deviate from them. Any deviations shall only be deemed valid if we expressly confirm them in writing, and only for the contract concerned. In the event of individual clauses being deemed invalid, the Conditions shall be reduced to the section still deemed valid.

2. Quotations, Conclusions of Contract

Quotations shall remain subject to review unless we expressly confirm otherwise in writing.

Details regarding properties (such as colour, weights, maximum and minimum limits and quantities, illustrations, samples, and the like) are only approximate and approximately determinant, i.e. non-binding outline details, unless we guarantee a specific property in writing. Orders and agreements with our staff, whose quotations, information, and ancillary agreements shall not be binding on us until written confirmation is issued on our part by telegram and telephone, shall only be accepted by us at Purchaser's risk.

Errors of any nature shall not be binding on us.

3. Delivery and Supply

Delivery periods and delivery dates shall not be binding, and are always understood to be exclusive of the duration of transport. These periods shall be extended by the period of time during which Purchasers are in arrears with the fulfilment of their commitments or obligations. In the event of our not effecting delivery punctually, Purchasers shall only be entitled to withdraw from the contract after the expiry of an appropriate subsequent period of grace for performance has passed without success. Claims for compensatory damages due to infringement of obligation shall be excluded. All risks, including with free delivery, shall be assigned to Purchasers as soon as the merchandise is made ready, and at the latest as soon as it is handed over to the freight forwarders/transporters, or leaves our works or depot respectively. This shall not apply in respect of consumers.

Deliveries: From EUR 500.-, net, freight and packing paid; for dispatch by rail, carriage paid to the bulk goods handling station of the place of destination; and for deliveries abroad, ex works. Irrespective of this we currently levy a standard goods transport charge of EUR 12,50. Special means of dispatch (express, special delivery) shall in all cases be charged to Purchasers in the full amount. Acceptance of the merchandise by freight forwarders or transporters shall be deemed to constitute proof of perfect packing and loading. In the event of our meeting the freight costs, we shall select the route and method of delivery. In the event of Purchasers bearing the freight costs, we shall determine, as Purchasers' agents, the mode of transport and route, but without any guarantee. We shall be entitled to effect part deliveries. Minimum order value EUR 20,- per order.

In cases of orders for special designs, we shall reserve the right to effect delivery of excess or shortfall of 10 percent.

4. Impediments to Delivery

Instances of force majeure, of technical or other origin, which could substantially restrict our production or the trouble-free processing of the order in question, as well as incapacity to perform on our part or on the part of our suppliers, for which we are not responsible, shall entitle us to withdraw from the contract in whole or in part, or to postpone delivery. Claims for compensatory damages on the part of Purchasers shall be excluded.

5. Warranty and Guarantee

Complaints in respect of incomplete or incorrect delivery, or complaints in respect of identifiable defects and deficiencies, are to be notified in writing immediately upon receipt of the merchandise, and any other defects or deficiencies immediately upon their being identified. Purchasers shall be obliged to grant rights of recourse in respect of third parties (e.g. appraisal of the state of affairs by the railway authorities). Processing or further sale, or combination or mixing shall be deemed to constitute approval, without reservation. In the event of complaint regarding defect or deficiency being submitted in due time, we shall accept liability within the framework of the provisions set out hereinafter. Our liability in respect of defects or deficiencies (warranty or guarantee) shall extend to the merchandise being exempt of defects or deficiencies corresponding to the state of the art. Natural wear and tear of parts subject to wear shall not fall within our scope of liability. Modifications to design or mode of performance which we effect prior to the delivery of an order shall likewise not grant entitlement to complaint.

Inasmuch as we may have claims under warranty against our suppliers, our own warranty shall be effected by the assignment of these claims to Purchasers, who hereby already accept this assignment for this situation. In the event of no warranty or guarantee against the suppliers coming into consideration, or in the event of the supplier declining to undertake any guarantee in respect of Purchasers, our guarantee shall be restricted to subsequent fulfilment, i.e. at our discretion either replacement delivery or refurbishment. The defective merchandise or replaced parts must be returned to us by the Purchasers. In the event of subsequent fulfilment proving unsuccessful, or if we are not in a position to carry this out, then Purchasers shall be entitled to withdraw from the contract or to reduce the purchase price. Any restrictions on liability pertaining shall not apply to the sale of consumer goods.

Claims by Purchasers for the reimbursement of costs incurred in the context of pursuit of guarantee claims against suppliers shall in any event be excluded if any measures incurring costs, in particular the initiation of court proceedings, have not been agreed upon with us beforehand.

We shall furnish guarantee for two years from the handover of the merchandise to Purchasers. In the event of our providing subsequent fulfilment during this period, this shall not constitute any recommencement of the term of the guarantee in respect of the repaired or replaced parts.

Independently of the foregoing guarantee arrangement, we (Truma Gerätetechnik GmbH & Co. KG, Wernher-von-Braun-Straße 12, 85640 Putzbrunn) shall offer a guarantee to Purchasers in accordance with the provisions set out hereinafter: The guarantee shall extend to all defects and deficiencies which are attributable to defects in materials or manufacture. The guarantee shall apply for a period of 24 months from delivery of the merchandise, and shall comprise, at our discretion, refurbishment or replacement delivery. The guarantee shall not apply:

- To parts subject to wear and to natural wear and tear;
- To damage to paintwork;
- To damage due to improper handling;
- In the event of the object of supply having been modified by Purchasers or third parties by the installation or fitting of parts of third-

party origin;

- If handling or operation instructions have not been followed;
- In the event of changes or defects incurred due to improper storage;
- To damage caused by climatic or other effects.

If we provide performance under guarantee, this shall not indicate any recommencement of the term of the guarantee in respect of the parts repaired or replaced.

6. Liability

Any more extensive claims on the part of Purchasers than those cited in Item 5 shall be excluded, irrespective of the legal grounds involved. We shall accordingly not be liable for damage which has not occurred on the object of supply itself, nor for other damage to Purchasers' assets. The foregoing acceptance of liability shall not apply to personal injury; it shall not apply to other damages, inasmuch as the cause of the damage rests on gross or wilful negligence; finally, it shall not apply inasmuch to an instance of damages caused by the absence of a property which we have guaranteed. The exclusion of further liability for compensatory damages shall not apply to claims in accordance with Arts. 1, 4 of the Product Liability Law (Produkthaftungsgesetz).

7. Prices, Fulfilment of Contract, Payment

In the event of delivery being effected later than four months after the concluding of the contract, then our price valid on the day of delivery shall apply. We shall also be entitled to effect price increases in respect of persons in the meaning of Art. 310 BGB (Civil Code), if the delivery is effected within four months from the concluding of the contract, if the prices from our suppliers or other costs incurred on the merchandise (including public levies) increase between the concluding of the contract and the delivery. Every part delivery against payments shall be deemed to constitute a separate transaction in respect of charging and payment.

Our invoices are due for payment as at the invoice date, and are payable without deduction in accordance with the following provisions even in cases of part delivery or complaints. Conditions for domestic deliveries: available for new customers by COD or advance payment until further notice. We retain the right to accept bills of exchange. Rights of reservation of ownership by Purchasers based on another contractual relationship shall be excluded.

In the event of delay in payment we shall charge arrears interest at the conventional bank rate, and pursue further claims. In the event of Purchasers falling behind with the acceptance of the merchandise or into arrears with a due payment, in whole or in part, then we shall be entitled, after the expiry without success of a reasonable period of grace allowed to them, to withdraw from the contract. The right to withdraw shall also pertain if circumstances are known which cause the creditworthiness of the Purchasers to appear questionable. In the event of our withdrawing, we shall be entitled, at Purchasers' expense, to arrange for the merchandise supplied to be identified, stored separately, and collected. Instead of withdrawing, we shall be entitled to prohibit Purchasers from selling, mixing, working or processing the merchandise, to withhold or refuse further deliveries from this and other contracts, in whole or in part, and to demand immediate payment for all deliveries. Our claims for compensatory damages shall remain unaffected thereby.

In respect of Purchasers' transactions with us, we shall be entitled to offset/assign claims against obligations (including balance claims).

Our external service personnel are not entitled, without written power of representation, to accept payments or carry out other availments.

8. Right of Reservation of Ownership, Safeguards

Until the payment in full of all claims (including balance claims), which may pertain now or in the future against Purchasers for any legal reason, the following safeguards shall hereby be granted:

Until payment in full of all the claims cited heretofore, the merchandise shall remain our property. Working and processing shall in all cases be effected for us as manufacturers. If the merchandise is mixed, combined, or processed, we shall become joint owners in accordance with the proportion of the value (cost prices). Purchasers shall further assign to us, here and now, their (joint) rights of ownership and possession to the new total entity. Purchasers shall grant our (joint) right of ownership free of charge. We shall release the safeguards at our discretion, inasmuch as their value exceeds the amount of claims in a sustained manner by more than 20 percent.

In the event of Purchasers selling (incorporating, using) our merchandise (worked or processed, mixed or combined, alone or with third-party merchandise), they shall here and now assign to us all claims against their customers, including such as relate to remunerations for work services provided, third-party merchandise, etc., with all safeguards (including rights of ownership and possession), whereby we shall become joint and several creditors, together with possible other jointly entitled parties, and, at the least, shall become part creditors (our claims plus 25 %). Purchasers shall only be entitled to sell our merchandise in accordance with Clause 1 in due and proper commercial transactions, provided that they are dealers (not consumers), and not in arrears. Purchasers shall be entitled, subject to revocation, to recover themselves claims assigned to us, the non-assignability of which to third parties is hereby agreed upon with them, provided they are not in arrears. At our request, Purchasers shall disclose the assignment, and provide us with the information and documentation required.

The purchaser hereby transfers all future claims (e.g. insurance, claims for non-permitted handling) because of our goods to us. The purchaser must notify us immediately (by telephone in cases of emergency) if our rights are infringed. If the purchaser acts in a way that infringes the agreement, we are entitled to demand the return of our goods, even without prior notification of our withdrawal. We are entitled to collect our property (which is subject to retention of title) and enter the storage and usage location for this purpose if the purchaser does not return the products over or such action becomes necessary to prevent destruction or loss of the goods. The purchaser relinquishes the rights to which he would be entitled in the event of unauthorised action. The preceding clauses concerning the return of goods do not apply if the purchaser is a consumer.

9. Place of Fulfilment, Court of Jurisdiction

Place of fulfilment for our supplies and services and for Purchasers' liabilities, and seat of court of jurisdiction, inasmuch as is permissible in accordance with Articles 38-40 ZPO (Code of Civil Procedure), shall be Munich. We shall, however, be entitled to pursue claims at the domicile of the placers of the order and before any other possible courts. German law shall apply exclusively.

Official language and language of contract shall be German.

Our sales and delivery conditions apply to all customer sales and service.
Prices subject to change without prior notification.

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