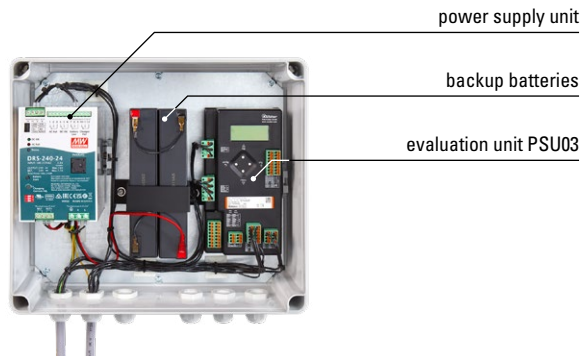


Evaluation units for shaft copying systems

System solution for modernization projects for the realization of elevator and safety functions with safety gear management

MODBOX.PSU03



Can be combined with electromechanical safety gear

The PSU03 evaluation unit is used in combination with the Ants LES03 sensor to implement elevator and safety functions in accordance with EN 81-20/-21/-50 and to trigger and monitor the electromechanical safety gear. The MODBOX.PSU03 version includes two backup batteries and a power supply unit suitable for the selected electromechanical safety gear **a** in addition to the evaluation unit in the plastic housing.

CANopen
LIFT **SSI** RS485

SIL3
Functional Safety
EN 81

Order code MODBOX.PSU03

MODBOX . PSU03 . **X****X****X** . **X****X** 1 . A 1 2 . **X****X** 1 . 1111

a Safety device (safety gear, see table)

Safety chain + elektromechanical safety gear

- 1 = **Wittur** – mechanical reset (via counter-movement) left/right at the same time
- 2 = **Dynatech** – electronic reset (magnetic field, coil) left/right at the same time
- 3 = **Cobianchi** – electronic reset (motor) left/right at the same time
- 4 = **Dynatech** – electronic reset (motor) left/right at the same time
- 5 = **Dynatech** – electronic reset (magnetic field, coil) left/right one after another → reduces the maximum current, thereby allowing smaller power supplies to be used if necessary
- C = safety chain + anti-sink protection

b Voltage safety chain

- 1 = 24 ... 60 V DC (±10%)
- 2 = 100 ... 130 V AC (±10%)
- 3 = 220 ... 240 V AC (±10%)

c Safety gear direction

- 1 = upwards and downwards
- 2 = downwards

d Door bridging

- 1 = parameter preset to "door bridging via PSU03"
- 2 = parameter preset to "external door bridging"

e UCM

- 1 = with all actuators (SC, ESA, ESG)
can only be combined with safety gear direction **c** = 1
- 2 = for safety chain only

f Language menu navigation

- 2 = EN – English (can be changed to DE, FR, IT, ES via menu)

g Interface / Interface profile

(adjustable termination resistor, default = off)

- 22 = CANopen Lift
- 31 = CANopen Lift + RS485 (9 Byte, 24 Bit position data)
- 41 = CANopen Lift + SSI, Gray (25 Bit)

The parameters **a**, **d**, **e** and **f** can be changed to one of the specified options via the display.

Producer	Product	Safety device direction		Safety gear dir.	Order code MODBOX.PSU03
		Type of reset (When indenting, always combined with a counter-movement)	a		
Wittur	ESG-xxBS	mechanically via counter-movement	1	1 ↓ ↑	MODBOX.PSU03.1x1.xx1.A12.xx1.1111
	ESG-25U	mechanically via counter-movement	1	2 ↓	MODBOX.PSU03.1x2.xx1.A12.xx1.1111
Dynatech	eASG xx UD	electronic (magnetic field, coil), left/right at the same time	2	1 ↓ ↑	MODBOX.PSU03.2x1.xx1.A12.xx1.1111
		electronic (magnetic field, coil), left/right one after another	5	1 ↓ ↑	MODBOX.PSU03.5x1.xx1.A12.xx1.1111
	eASG xx	electronic (magnetic field, coil), left/right at the same time	2	2 ↓	MODBOX.PSU03.2x2.xx1.A12.xx1.1111
		electronic (magnetic field, coil), left/right one after another	5	2 ↓	MODBOX.PSU03.5x2.xx1.A12.xx1.1111
	eASG xx EVO UD	electronic (magnetic field, coil), left/right at the same time	2	1 ↓ ↑	MODBOX.PSU03.2x1.xx1.A12.xx1.1111
		electronic (magnetic field, coil), left/right one after another	5	1 ↓ ↑	MODBOX.PSU03.5x1.xx1.A12.xx1.1111
	eASG xx EVO	electronic (magnetic field, coil), left/right at the same time	2	2 ↓	MODBOX.PSU03.2x2.xx1.A12.xx1.1111
		electronic (magnetic field, coil), left/right one after another	5	2 ↓	MODBOX.PSU03.5x2.xx1.A12.xx1.1111
Cobianchi	eASG xx EVO II UD	electronic (motor), left/right at the same time	4	1 ↓ ↑	MODBOX.PSU03.4x1.xx1.A12.xx1.1111
Cobianchi	PC xx GAxEA	electronic (motor), left/right at the same time	3	1 ↓ ↑	MODBOX.PSU03.3x1.xx1.A12.xx1.1111
	PC xx GOxEA	electronic (motor), left/right at the same time	3	2 ↓	MODBOX.PSU03.3x2.xx1.A12.xx1.1111

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Technical data MODBOX – Housing

Material	ABS with 45% post-industrial recycled content
Color	grey (RAL7035) / transparent
Protection	IP66
Electrical insulation class	Class II
Operating temperature	-20 °C ... +60 °C [-4 °F ... +140 °F]
Dimensions (HxWxT) / Weight	
for b = 1, 3	341 x 291 x 128 mm [13.43 x 11.46 x 5.04"]
	1.45 kg [51.15 oz]
for b = 2, 4, 5	341 x 291 x 168 mm [13.43 x 11.46 x 6.61"]
	1.70 kg [59.97 oz]

Technical data MODBOX – Power supply for **b** = 1, 3

Input voltage	90 ... 264 V AC / 1.3 A 127 ... 370 V DC / 0.8 A
Operating temperature	-30 °C ... +70 °C [-22 °F ... +158 °F]
Dimensions (HxWxT)	40 x 90 x 100 mm [1.57 x 3.54 x 3.94"]
Weight	0.3 kg [10.58 oz]

Technical data MODBOX – Backup battery (2 installed)

VdS certified	G106060
Connection	Faston 4.8 mm
Voltage	12 V
Capacity	2.3 Ah
Dimensions (HxWxT)	178 x 35 x 67 mm [7.01 x 1.38 x 2.64"]
Weight	0.94 kg [33.16 oz]

Technical data MODBOX – Power supply for **b** = 2, 4, 5

Input voltage	90 ... 305 V AC / 1.3 A 127 ... 431 V DC / 0.8 A
Operating temperature	-30 °C ... +70 °C [-22 °F ... +158 °F]
Dimensions (HxWxT)	86 x 125 x 129 mm [3.39 x 4.92 x 5.08"]
Weight	1.19 kg [41.98 oz]

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MODBOX.PSU03

Technical data – evaluation unit

Electrical characteristics

Connection type	Push-in spring connection
Supply voltage +V	24 V DC $\pm 10\%$
Power	< 8.5 W the power ratings of the external components must be taken into account when selecting the power supply unit
Digital output (CLK)	V _{CLK} +V – 1.0 V, max. 200 mA wiring may only be carried out in acc.with the operating instructions
Digital output (BUZ)	V _{BUZ} +V – 1.0 V, max. 50 mA
ESG holding coil (SGH)	V _{SGH} +V – 1.0 V I max, min. 1,4 A (up to +50°C), 1,0 A (up to +65°C) I max, typ. 2,0 A (up to +50°C), 1,5 A (up to +65°C)
ESG reset (SGR)	V _{SGR} +V – 1.0 V, max. 6 A
Integration of safety chain (SC) potential-free contact	220 V ... 240 V AC, max. 2 A 100 V ... 130 V AC, max. 2 A 24 V DC, max. 1 A 48 V DC, max. 0,5 A 60 V DC, max. 0,48 A
Integration of safety chain / additional brake (ESA) potential-free contact	220 V ... 240 V AC, max. 2 A 100 V ... 130 V AC, max. 2 A 24 V DC, max. 1 A 48 V DC, max. 0,5 A 60 V DC, max. 0,48 A
Integration of door contacts (Door) potential-free contact	220 V ... 240 V AC, max. 2 A 100 V ... 130 V AC, max. 2 A 24 V DC, max. 1 A 48 V DC, max. 0,5 A 60 V DC, max. 0,48 A
Digital output (DO1)	V _{DO1} +V – 1.0 V, max. 50 mA
Relay output (REL1, REL2) potential-free contact	24 V AC, max. 0.1 A 24 V DC, max. 0.1 A
Digital input (DI1, DI2, DI3, DI4))	max. 30 V DC low < 2.0 V DC high > 12 V DC

Safety characteristics

Shutdown time / system response time	< 30 ms (incl. relay switching times)
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Mechanical characteristics

Mounting	DIN rail mounting
Housing (material)	plastic (PC/ ABS)
Weight	390 g (without connector)
Protection acc. to EN 60529	IP20
Vibration resistance acc. to EN 60068-2-6	10... 55 Hz, ± 0.35 mm, 20 m/s ²
Shock resistance acc. to EN 60068-2-27	300 m/s ² , 11 ms (3 shocks per direction)
Continuous shock resistance acc. to EN 60068-2-27	100 m/s ² , 16 ms (1000 shocks per direction)
Dimensions L x W x H	178 x 95 x 45 mm [7.00 x 3.74 x 1.77"] with connector +16 mm [0.63"]

Environmental conditions

Humidity	< 95 % (non-condensing)
Operating temperature	-20 °C ... +65 °C [-4 °F ... +149 °F]
Storage temperature	-40 °C ... +85 °C [-40 °F ... +185 °F]
Air pressure (operating altitude)	800 ... 1013 hPa (up to 2000 m [6562 ft] above NN)

Approvals

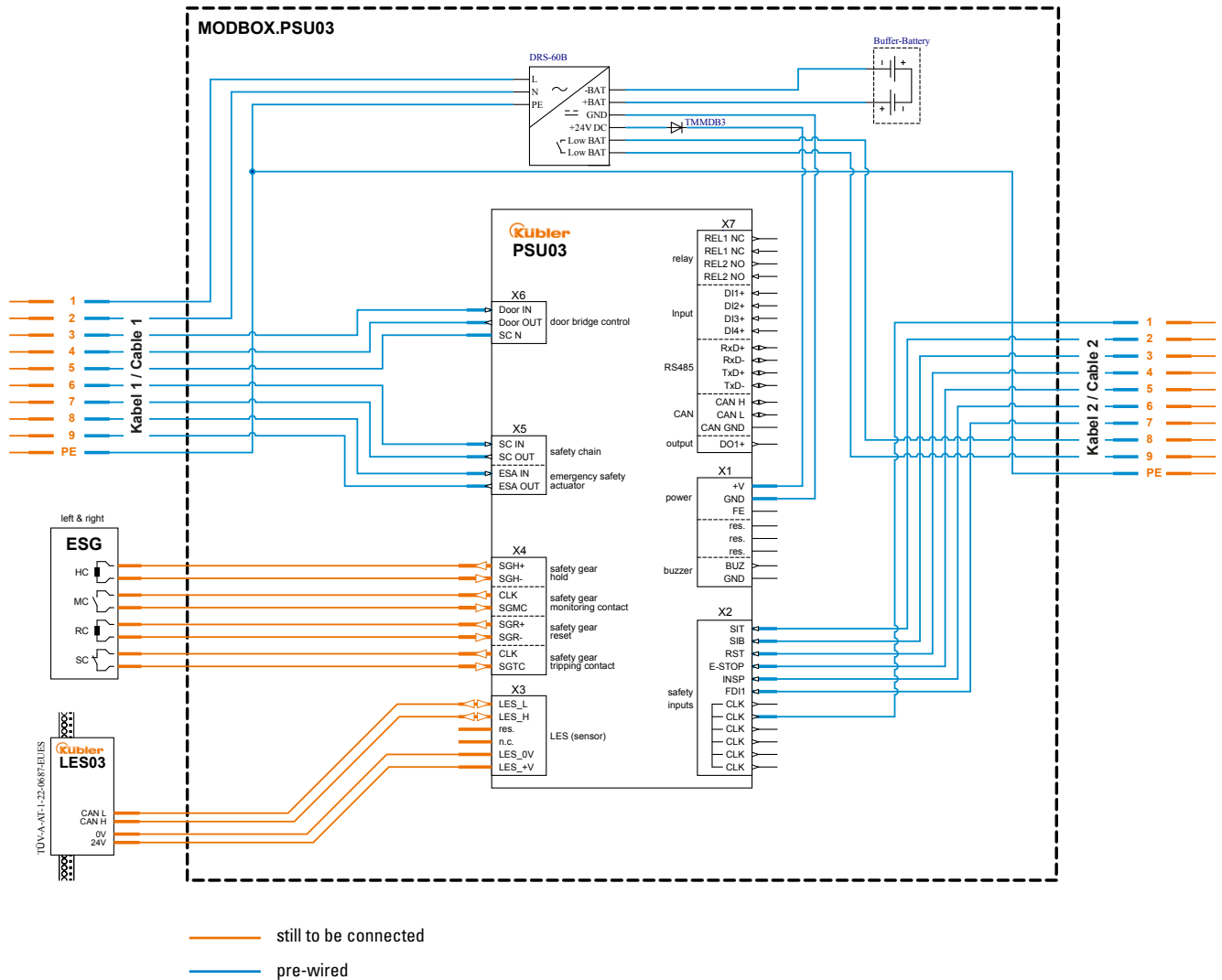
EU type-examination certificate	TÜV-A-AT-1-25-0752-EUES
Classification	SIL3
System structure	2 channel
PFH_d value	< 10 ⁻⁷ h ⁻¹
Mission time / Proof test interval	20 years
Relevant standards	EN 81-20; EN 81-50; EN 81-21; EN 62061; EN 61508-1-7; EN 60664-1; EN 61784-3
CE compliant in accordance with	EMC Directive 2014/30/EU RoHS Directive 2011/65/EU Elevator Directive 2014/33/EU

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Wiring diagram / Terminal assignment



Terminal assignment cable 1

Cable, 10 core										
Signal:	+V	0 V	PSU03 Door IN	PSU03 Door OUT	PSU03 SC N	PSU03 SC IN	PSU03 SC OUT	PSU03 ESA IN	PSU03 ESA OUT	PE
Color:	BK 1	BK 2	BK 3	BK 4	BK 5	BK 6	BK 7	BK 8	BK 9	GN/YE

Terminal assignment cable 2

Cable, 10 core										
Signal:	PSU03 CLK	PSU03 SIT	PSU03 SIB	PSU03 RST	PSU03 ESTOP	PSU03 INSP	PSU03 FDI1	power supply Low Bat	power supply Low Bat	PE
Color:	BK 1	BK 2	BK 3	BK 4	BK 5	BK 6	BK 7	BK 8	BK 9	GN/YE

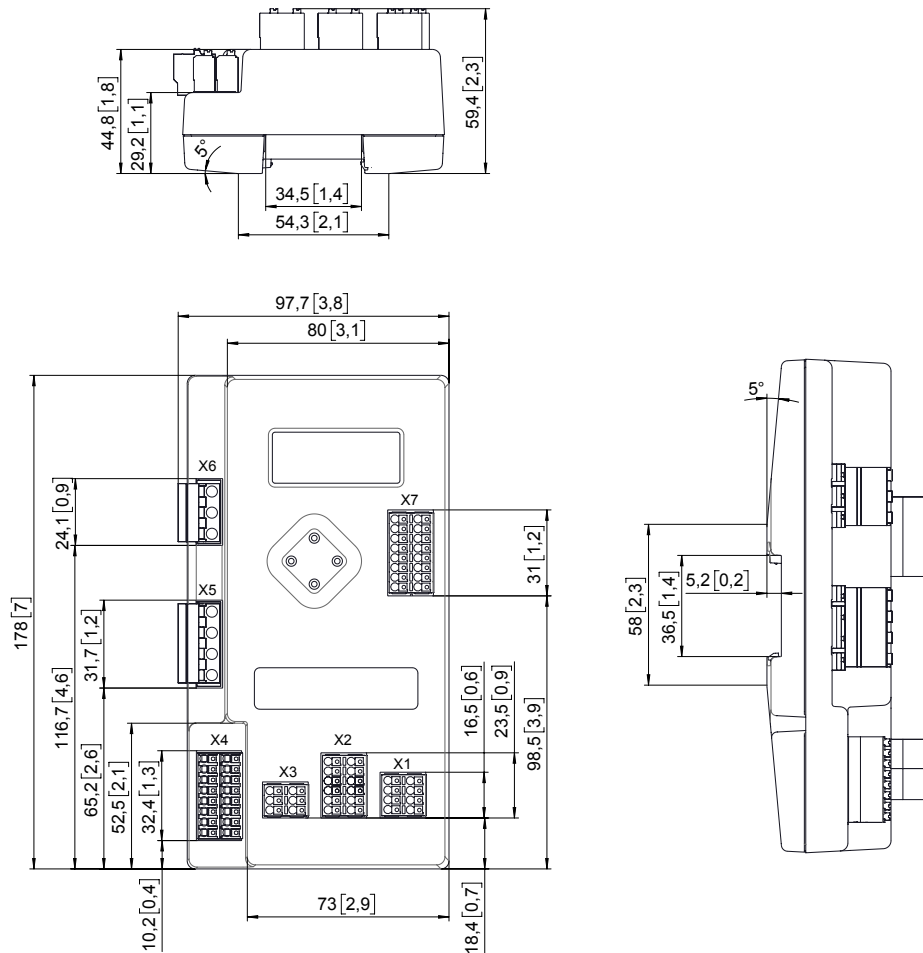
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MODBOX.PSU03

Dimensions PSU03

Dimensions in mm [inch]



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MODBOX.PSU03

Dimensions MODBOX housing

Dimensions in mm [inch]

MODBOX.PSU03.1xx.xx1.A1x.xx1.1111

MODBOX.PSU03.3xx.xx1.A1x.xx1.1111

MODBOX.PSU03.2xx.xx1.A1x.xx1.1111

MODBOX.PSU03.4xx.xx1.A1x.xx1.1111

MODBOX.PSU03.5xx.xx1.A1x.xx1.1111

