



Integrated Solutions · Low Voltage Systems

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Lighting and Heating Panels				
made of Polyester Resin			8146	616
made of Light Metal	CUBEx		8264	619
UPS Uninterrupted Power Supply				
Ex UPS	CUBEx		8265	621

You will find further information on the Internet www.stahl.de

Machine Control				
General Information				
Battery Boxes				
Battery Boxes			8316	
Battery Container			BC	
Ex p Technology „Pressurized Apparatus“				
General System Description				



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Module technology

Flameproof components are built into enclosures designed for „increased safety Ex e“.

- Explosion protection to
 - IEC
 - ATEX
- Marine certification with individual acceptance
- Explosion protection to
 - Series 8146 in polyester resin
 - Series 8150 in stainless steel
- Enclosures for modular combination
- Lighting and heating panels
- Comprehensive construction
- Easy handling
- Installation of flameproof modules (Ex de)
 - fuses, miniature circuit-breakers, switches, contactors, motor protection relay, etc.
- Terminals in Ex e „increased safety“ standard
- Rated current up to max. 160 A
- Mounting frame system for wall-mounting or free-standing with or without protection roof
- Operating flaps with inspection windows for simple external operation



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Flameproof enclosures

Standard industrial equipment can be built into flameproof enclosures of Ex de construction, pressure with standing.

- Explosion protection to
 - IEC
 - ATEX
- Marine certification with individual acceptance
- Enclosure material
 - Sheet-steel or stainless steel
- Enclosure for modular combination
- Standard motor starters
- Installation of standard electrical equipment
 - fuses, switches, contactors, programmable controllers, regulators, etc.
- Axial load-through and inspection windows available
- Rated current up to max. 800 A, dependent on enclosure series
- Mounting frame system for wall-mounting or free-standing with or without protection roof
- Different installation system
 - indirect entry using Ex e connection chambers
 - indirect entry using Ex d cable glands or conduit material



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CUBEx systems

The straight walled CUBEx design of enclosure, are utilised for the building of control and distribution systems, control panels and terminal boxes. Installed industrial sparking electrical components are planned and wired in accordance to the customer's requirements.

The enhanced features of the CUBEx system allows unique possibilities of D2D connections, therefore reducing the necessity for inter-connection chambers.

- Compact system
- D2D bushing
- Explosion protection to ATEX, IEC and NEC
- Marine certification with individual acceptance
- Can be used in
 - Zone 1 and Zone 2
 - Zone 21 and Zone 22
- 7 basic enclosure sizes
- Available versions
 - lighting and heating panel
 - standard motor starters
- Optional: glass windows and cover hinges
- Entry method direct and indirect



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- > Available versions
 - With miniature circuit breaker, tripping characteristic C
 - with residual current circuit breaker and overcurrent release, tripping characteristic B and C
- > Advantages
 - Installation of miniature circuit breakers under hinged inspection window
 - External operation of the breakers
 - Switch setting visible at all times
 - Operation under voltage
 - Short delivery times



WebCode 8146D

	ATEX / IECEx						Zone	NEC 505			NEC 506			Division	NEC 500										
	0	1	2	20	21	22		Class I							Class I		Class II		Class III						
For use		x	x		x	x	For use in	x						For use in	x										

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Technical Data

Explosion protection Global (IECEX) Gas and dust	IECEX PTB 06.0090 Ex d e ia ib [ia Ga] mb q IIA, IIB, IIC T6, T5, T4 Gb Ex tb IIIA, IIIB, IIIC T80°C, T95°C, T130°C Db
Europe (ATEX) Gas and dust	PTB 01 ATEX 1024 ⊕ II 2 G Ex d e ia ib [ia Ga] mb q IIA, IIB, IIC T6, T5, T4 Gb ⊕ II 2 D Ex tb IIIA, IIIB, IIIC T80°C, T95°C, T130°C Db IP66
Certifications and certificates Certificates	IECEX, ATEX, Brazil (INMETRO), China (China-Ex), India (PESO), Kazakhstan (TR), Korea (KCs), Russia (TR), Serbia (SRPS), Taiwan (ITRI), Ukraine (TR), Belarus (TR)
Rated voltage	415 / 240 V AC
Rated current	80 A
Degree of protection	IP66 (EN 60529)
Enclosure material	glass fibre reinforced polyester resin, dark grey similar to RAL 7024 impact resistance ≥ 7 J surface resistance ≤ 10 ⁹ Ω flame retardant acc. to IEC/EN 60695, UL 94, ASTM D635

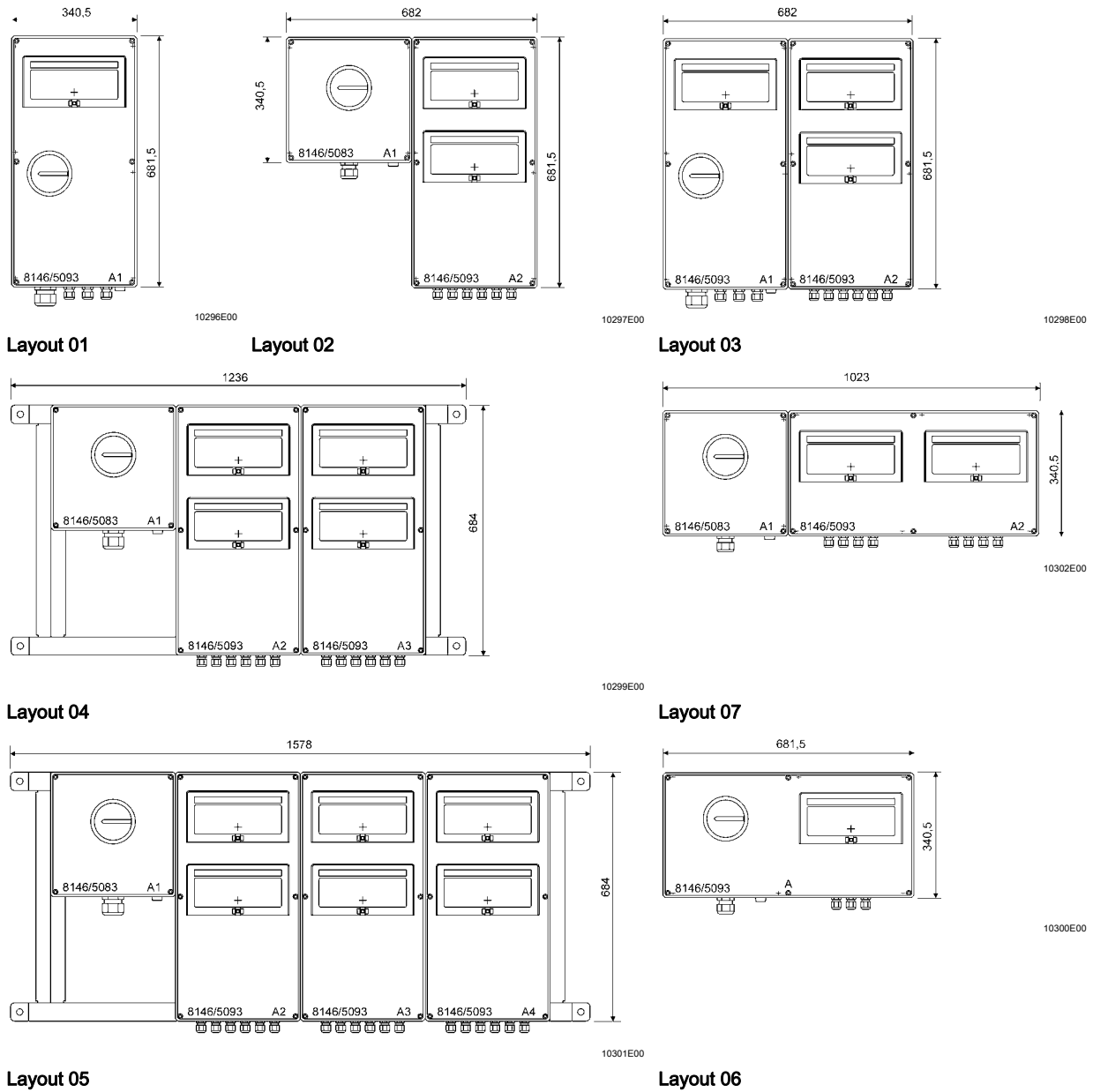
Selection Table						
Version	Quantity	Characteristics	Layout No.	Cable entries	Order number	Art. no.
Lighting panels with miniature circuit breaker, 1-pole, 16 A, wiring on terminal blocks	6	C	01	1 x M40, 6 x M25, 1 x M16	8146/5-ExV-01-06L16C1P-T	137111
	12	C	02	1 x M50, 12 x M25, 1 x M16	8146/5-ExV-02-12L16C1P-T	137118
	18	C	03	1 x M50, 18 x M25, 1 x M16	8146/5-ExV-03-18L16C1P-T	137124
	24	C	04	1 x M50, 24 x M25, 1 x M16	8146/5-ExV-04-24L16C1P-T	137130

Selection Table						
Version	Quantity	Characteristics	Layout No.	Cable entries	Order number	Art. no.
Lighting panels with miniature circuit breaker, 1-pole, 16 A, mattress wiring	6	C	06	1 x M40, 6 x M25, 1 x M16	8146/5-ExV-06-06L16C1P-D	137135
	12	C	07	1 x M50, 12 x M25, 1 x M16	8146/5-ExV-07-12L16C1P-D	137140

Selection Table						
Version	Quantity	Characteristics	Layout No.	Cable entries	Order number	Art. no.
Heat-trace panels with residual current circuit breaker and overcurrent release, 1-pole + N, 16 A / 30 mA, wiring on terminal blocks	8	B	02	1 x M40, 8 x M25, 1 x M16	8146/5-ExV-02-08H16B1N-T	137146
	12	B	03	1 x M50, 12 x M25, 1 x M16	8146/5-ExV-03-12H16B1N-T	137152
	24	B	05	1 x M50, 24 x M25, 1 x M16	8146/5-ExV-05-24H16B1N-T	137157
	8	C	02	1 x M40, 8 x M25, 1 x M16	8146/5-ExV-02-08H16C1N-T	137161
	12	C	03	1 x M50, 12 x M25, 1 x M16	8146/5-ExV-03-12H16C1N-T	137164
	24	C	05	1 x M50, 24 x M25, 1 x M16	8146/5-ExV-05-24H16C1N-T	137167

Selection Table						
Version	Quantity	Characteristics	Layout No.	Cable entries	Order number	Art. no.
Heat-trace panels with residual current circuit breaker and overcurrent release, 1-pole + N, 16 A / 30 mA, mattress wiring	8	B	07	1 x M40, 8 x M25, 1 x M16	8146/5-ExV-07-08H16B1N-D	137171
	8	C	07	1 x M40, 8 x M25, 1 x M16	8146/5-ExV-07-08H16C1N-D	137173

Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



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- > Enclosures with Ex d protection
- > Available versions:
 - with MCB, characteristics C
 - with MCB / ELCB, characteristics B resp. C
- > Advantage
 - Short delivery time



WebCode 8264A

ATEX / IECEx							NEC 505 Class I				NEC 506		
Zone	0	1	2	20	21	22	Zone	0	1	2	20	21	22
For use in		x	x		x	x	For use in		x				

Technical Data	
Explosion protection Global (IECEX) Gas and dust	IECEX KEM 07.0051X Ex d e ia ib [ia Ga] mb IIB+H2 Gb T6 ... T4 Ex d e ia ib [ia Ga] mb IIB Gb T6 ... T4 Ex tb IIIC T80°C ... T130°C Db
Europe (ATEX) Gas and dust	KEMA 01 ATEX 2145 X Ⓢ II 2 G Ex d e ia ib [ia Ga] mb IIB+H2 Gb T6 ... T4 Ⓢ II 2 G Ex d e ia ib [ia Ga] mb IIB Gb T6 ... T4 Ⓢ II 2 D Ex tb IIIC T80°C ... T130°C Db
Certifications and certificates Certificates	IECEX, ATEX, Brazil (INMETRO), China (China-Ex), India (PESO), Canada (cUL), Kazakhstan (TR), Korea (KCs), Russia (TR), Taiwan (ITRI), USA (UL), Belarus (TR)
Rated voltage	415 V / 240 V AC
Rated current	100 A
Degree of protection	IP66 (EN 60529)
Enclosure	standard: Aluminium (saltwater-proof according to EN 13195-1) special: Stainless steel

E8

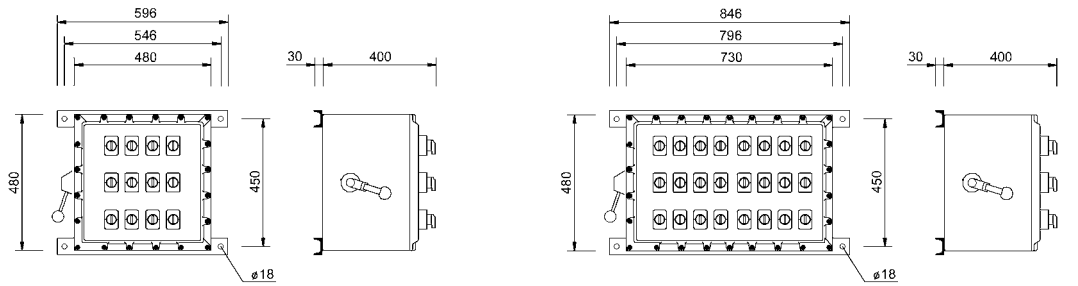
Selection Table

Version	Quantity	Characteristics	Layout No.	Cable entries	Order number	Art. no.
MCB 1-pole 16 A	12	C	01	1 x M50, 12 x M20	8264/5-ExV-01-12L16C1P-D	143210
	24	C	02	1 x M50, 24 x M20	8264/5-ExV-02-24L16C1P-D	143212

Selection Table

Version	Quantity	Characteristics	Layout No.	Cable entries	Order number	Art. no.
MCB / ELCB 1-pole + N 16 A / 30 mA	12	B	01	1 x M50, 12 x M20	8264/5-ExV-01-12H16B1N-D	143214
	24	B	02	1 x M50, 24 x M20	8264/5-ExV-02-24H16B1N-D	143216
	12	C	01	1 x M50, 12 x M20	8264/5-ExV-01-12H16C1N-D	143217
	24	C	02	1 x M50, 24 x M20	8264/5-ExV-02-24H16C1N-D	143218

Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



Layout 01

Layout 02

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12977E00

- > Ex UPS Guard battery monitoring according to IEC/EN 60079 et seq.
- > Stable output voltage
- > Adjustable UPS time
- > Functional battery test
- > Capacity measurement of battery
- > Potential-free signal outputs



WebCode 8265B

	ATEX / IECEx					
Zone	0	1	2	20	21	22
For use in		x	x			

Selection Table										
Version	Rated input voltage	Output voltage	Output voltage for UPS mode	Battery	Order number	Art. no.	PS			
Ex UPS Series 8265	24 V DC	24 V DC	20.6 V DC	10 Ah	8265/55-612-111	206678	13			
				25 Ah	8265/55-613-111	206679	13			
				40 Ah	8265/55-614-111	206680	13			
				60 Ah	8265/55-615-111	206721	13			
	100 ... 250 V AC	24 V DC	20.6 V DC	10 Ah	8265/55-612-211	206722	13			
				25 Ah	8265/55-613-211	206723	13			
				40 Ah	8265/55-614-211	206724	13			
				60 Ah	8265/55-615-211	206725	13			
				further versions / designs on request						

Technical Data	
Explosion protection Global (IECEX) Gas and dust	IECEX PTB 07.0029 (see 8265/5) Ex d e ia ib [ia Ga] IIC T6, T5, T4 Gb Ex tb IIIC T80°C, T95°C Db
Europe (ATEX) Gas and dust	PTB 06 ATEX 1077 (see 8265/5) ⊕ II 2 G Ex d e ia ib [ia Ga] IIC T6, T5, T4 Gb ⊕ II 2 D Ex tb IIIC T80°C, T95°C Db
Certifications and certificates Certificates	IECEX, ATEX
Output voltage	24 V DC
Output voltage for UPS mode	20.6 V DC
Rated operational current	10 A
Charging current	1.5 A per battery
Closed-circuit current	5 µA
UPS time	1 s ... 6 h ∞ (via DIP switch)
Potential-free signal output	max. 100 mA
Ambient temperature	charging: 0 ... +40 °C discharging: -20 ... +40 °C
Degree of protection	IP66 (IP23 for the battery enclosure)

Project Guidelines

The values in the table were determined, observing the criteria for reaching the full battery life.
The autonomy time is reached at the end of the battery life.

	Order number		autonomy time in min.							
			5	10	60 (1 h)	120 (2 h)	180 (3 h)	300 (5 h)		
0050 50 W 24 V DC	8265/55-612-111-0050	....	24 V DC							
	8265/55-612-211-0050	....	100 ... 250 V AC							
	8265/55-613-111-0050	....	24 V DC							
	8265/55-613-211-0050	....	100 ... 250 V AC							
	8265/55-614-111-0050	....	24 V DC							
	8265/55-614-211-0050	....	100 ... 250 V AC							
	8265/55-615-111-0050	....	24 V DC							
	8265/55-615-211-0050	....	100 ... 250 V AC							
	Set value			0005	0010	0060	0120	0180	0300	

	Order number			autonomy time in min.						
				5	10	60 (1 h)	120 (2 h)	180 (3 h)	300 (5 h)	
0100 100 W 24 V DC	8265/55-612-111-0100	....	24 V DC							
	8265/55-612-211-0100	....	100 ... 250 V AC							
	8265/55-613-111-0100	....	24 V DC							
	8265/55-613-211-0100	....	100 ... 250 V AC							
	8265/55-614-111-0100	....	24 V DC							
	8265/55-614-211-0100	....	100 ... 250 V AC							
	8265/55-615-111-0100	....	24 V DC							
	8265/55-615-211-0100	....	100 ... 250 V AC							
	Set value			0005	0010	0060	0120	0180	0300	

	Order number			autonomy time in min.						
				5	10	60 (1 h)	120 (2 h)	180 (3 h)	300 (5 h)	
0150 150 W 24 V DC	8265/55-612-111-0150	....	24 V DC							
	8265/55-612-211-0150	....	100 ... 250 V AC							
	8265/55-613-111-0150	....	24 V DC							
	8265/55-613-211-0150	....	100 ... 250 V AC							
	8265/55-614-111-0150	....	24 V DC							
	8265/55-614-211-0150	....	100 ... 250 V AC							
	8265/55-615-111-0150	....	24 V DC							
	8265/55-615-211-0150	....	100 ... 250 V AC							
	Set value			0005	0010	0060	0120	0180	0300	

	Order number			autonomy time in min.						
				5	10	60 (1 h)	120 (2 h)	180 (3 h)	300 (5 h)	
0200 200 W 24 V DC	8265/55-612-111-0200	....	24 V DC							
	8265/55-612-211-0200	....	100 ... 250 V AC							
	8265/55-613-111-0200	....	24 V DC							
	8265/55-613-211-0200	....	100 ... 250 V AC							
	8265/55-614-111-0200	....	24 V DC							
	8265/55-614-211-0200	....	100 ... 250 V AC							
	8265/55-615-111-0200	....	24 V DC							
	8265/55-615-211-0200	....	100 ... 250 V AC							
	Set value			0005	0010	0060	0120	0180	0300	

	The battery life is reached according to IEC 896 Part 2.
	The battery life is reduced substantially, depending on load.
	The autonomy time is not reached.

Description

Ex UPS Guard

The R. STAHL UPS modular system offers tailor-made and economical UPS solutions for hazardous areas. According to the ATEX directives and common standards, special requirements apply to the charging of batteries in the hazardous area. To ensure explosion protection, the parameters for operation of batteries and battery chargers must be monitored - in addition to the settings on the charger. The new Ex UPS Guard checks the function of the charger and of the batteries according to the ATEX directive. On the market, this unique function provides the safety of the installation.



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Enclosures used

Ex d enclosure Series 8265 with coated surface (RAL7035)
Ex e enclosure Series 8146

Systems mounted on frame Series 8298 made of galvanized steel

Typical dimensions (H x W x D) / weights

8265/55-612-...	1246 x 396 x 300 mm / weight: approx. 65 kg
8265/55-613-...	1578 x 396 x 300 mm / weight: approx. 84 kg
8265/55-614-...	1578 x 396 x 300 mm / weight: approx. 96 kg
8265/55-615-...	1578 x 396 x 300 mm / weight: approx. 108 kg