

GATE OPERATORS



QUALITY PRODUCTS
OF AUSTRIA



tousek[®]
G A T E A U T O M A T I O N

36 months of professional guarantee



Tousek Service Interface: The most elegant solution for the communication between actuator and computer. The self-explanatory user guidance for the programming of the control board makes reading a manual literally superfluous.



Green safe: When in idle mode the intelligent control switches off unused devices and thus achieves an extremely low power consumption of only 1 Watt in standby mode! This saves valuable energy.



Safety Sensor: A high-resolution sensor monitors engine speed and power for maximum safety and comfort.



Initial test under EN 13241-1 of **TÜV-Süd** taking as basis EN 12453 and EN 12445. Main safety edge with passive and side safety with active edge.



Clear text menu programmable via four buttons in **7 languages**.
Selectable languages: English, German, Spanish, French, Italian, Czech, Polish

36 months of professional guarantee

On all tousek branded products you have 36 months of guarantee.

Explanation of used icons



For private use



For industrial use



Weight of gate
(for swing gates weight of leaf)



Master/Slave-function



Entrance width of gate



Leaf width of gate

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Sliding gate automation serie Pull T page 16

- Pull T10 and Pull T15 for gates running in opposite direction in master/slave

Industrial gate automation TPS 6speed page 18

- Incredibly high speed of 30m/min
- 100 % duty cycles
- up to 600kg gate weight

Industrial sliding gate automation TPS20 page 19

- TPS 20N (to be inserted into gate columns provided by the customer) for gates running in opposite direction in master/slave

Swing gate automation SWING X4 HD and SWING X4 LHD page 42

- Swing X4 (standard and long stroke) higher duty cycles, 60% instead of 40%, and reduced operating noise

Industrial swing gate automation REX page 44–45

- Extremely massive swing gate operator for heavy swing and folding gates with intensive operation.
- With absolute encoder, speed control through frequency converter and display control

Barrier PASS 882 page 65

- For double barrier in master/slave

Radio light switch RRL 868 page 85

- For conventional switch box up to 300W switching capacity in 868MHz

GSM module page 88

- Standard module for easy operation of the gate system
- Additional module with expanded radio receiver Tousek 868 MHz. Easy learning and deleting of remote controls manageable via SMS or with software.

Fingerprint reader SA 2 page 96

- Sturdy aluminum housing
- up to 97 fingerprints and 8 user groups
- Identification of manipulation through fake fingers

Photocell LS 100 page 99

- Massive die-cast aluminum housing
- up to 30m range
- 180° tiltable lense

LED traffic light page 100

- High-quality dual-chamber LED traffic Light

Radio transmission system for safety edges page 103

- Extended by a 2-channel version



40 YEARS **tousek**
G A T E A U T O M A T I O N

40 years of experience – 40 years a success story

With the foundation of the company tousek Gate Automation in Austria in 1974 Eduard Tousek prepared the ground for today's group of companies which tells a unique success story. For 40 years Eduard Tousek has been coping with national as well as with international competition at the highest level with ongoing and further development of his product portfolio. The clientele of the company consists mainly of locksmiths, gate manufacturers and electricians. These professionals form a team together with the employees of tousek and have the higher goal of bringing complete satisfaction to the final client. The company tousek only supplies the specialist shop/dealer to ensure the professional installation of the gate operators. An alliance that is based on mutual trust and respect. The success for so many years is due to this long lasting and consistent collaboration the company has had.



The products

tousek products are used and appreciated all over the world because of their advanced technology and high quality standards. A long durability and up-to-date electronics are the main characteristics of the products. For the technicians and developers the tousek quality is more than function and accuracy. Permanent controls and analysis for the material in- and output are the core elements of the tousek quality assurance. Managing Director Eduard Tousek meets expectations of the changing market demand. Short and fast communication ways between R&D and Sales ensure a rapid adaption to market requirements. The „**tousek** InHouse“ principle ensures an everlasting manufacturing level for the customers. Research, development, prototyping, testing, manufacturing and quality control are all in the own factory. Only with this the company can guarantee the original **tousek** quality.





Advertising material

The following advertising material can be supplied on request

Stickers



Sticker with tousek-Logo (blue)

Dimension:	9 x 1,7cm	5 unit(s) free
	18 x 3,4cm	5 unit(s) free
	36 x 6,8cm	5 unit(s) free
Sticker „Automatic Gate Operators“		2 unit(s) free

Flag and banner

Flag with tousek-logo

(free of charge for the duration of an exhibition, on request)

banner 210 x 80cm

Brochures

Single brochures

sliding-, swing-, garage door operators, barriers and cantilever system





tousek stands for safety



Our sliding gate operators **Pull T** as well as our swing gate operator **Slim CLR** have gone through the initial test by TÜV Süd for EN 132 41-1 underlying EN 12453 and EN 12445.

For a gate installation according to our specification with these operators an active safety sensing edge at the main closing edge is not necessary.

Control book and test certificate for your gate installation is available on our internet site.

COMPANY

NEWS

PRODUCTS

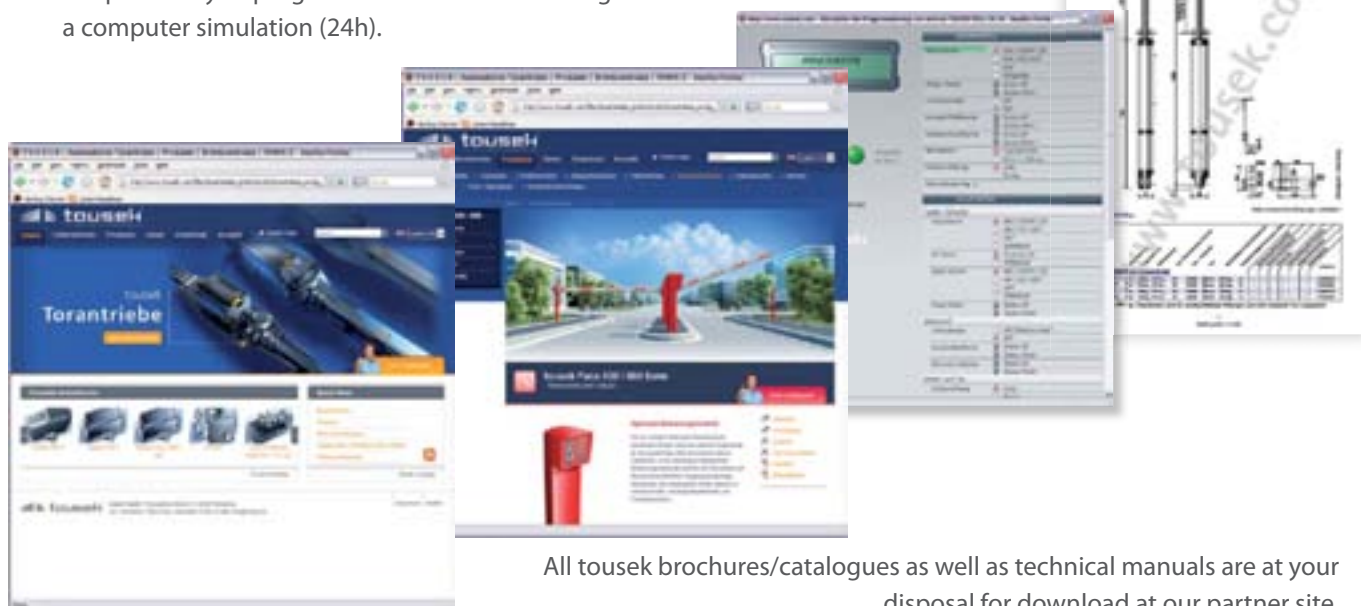
DOWNLOAD

CONTACT

sitemap

Please visit us in the Internet - **www.tousek.com**

tousek – this name stands not only for innovative operators but also for an user-friendly and informative webpage. For detailed information of gate operators you have the possibility to program the PULL online through a computer simulation (24h).



All tousek brochures/catalogues as well as technical manuals are at your disposal for download at our partner site.



Programmable control unit

in       

- The programming of an electronic control board for gate automation has never been so easy and comfortable

Via four buttons, a large illuminated LC Display and clear text programming menus you can adjust all functions in an user-friendly and time saving way.



Electronic limit detection

The operator detects automatically the end positions of the gate during start up and saves them.



Photocells

The function of the photocell can be adjusted on the control board in accordance to your own wishes.



Connection help

The display informs about the correct connection during installation and displays any errors and therefore helps saving time.



Soft stop

Can be programmed separately for opening and closing movement. Between 30% and 100% of actual movement speed are possible in 5% steps without changing the travel way.



Safety sensing edges

8,2 kOhm safety sensing edges can be connected directly to the control unit, separately for main and side safety edge. Thereby the cost-intensive switching device is not necessary. If one of the safety sensing edges is triggered the display will show that.

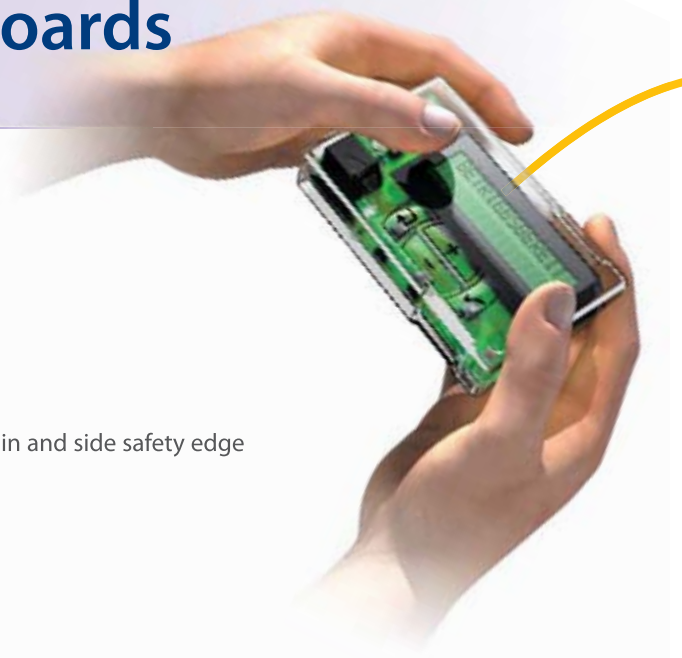


Operator control boards

microprocessor controls

General product features

- Large illuminated LC-Display (2x16 characters)
- With vision panel
- Clear text menu programmable via four buttons in 7 languages
- Status display for safety and impulse connections
- Pluggable 1- or 2-channel radio receivers
- Direct connection of 8,2 kΩ safety sensing edges separated for main and side safety edge
- Electronic force regulation
- Electric lock output (except for sliding gate operators)
- Self-monitoring of photocell
- Operation mode is selectable (impulse, automatic, dead man)
- Free adjustable partial opening for pedestrians, also with one leaf
- Partial opening also available through remote control
- The following languages are selectable: English, German, Spanish, French, Italian, Czech, Polish





General product features

- Programming via PC
- Event Viewer of the last 800 cycles (approx.)
- Saving of preset menu-parameters/ BVH
- Uploading of preset menus into the control board
- History of all the changes/events in the menu
- Cycle counter
- Software updates via Internet
- Event memory sent by e-mail (internet access required)
- Compatible with PULL TSA, series PULL T, TPS 20, TPS 35 PRO, TPS 60 PRO, ST12/5, ST51, ST61 and PASS 838, PASS 882



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PULL T5	■		up to 500 kg	14–15
PULL T8	■	■	up to 800 kg	14–15,16
PULL T24	■	■	up to 600 kg	14–15
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Sliding gate automation PULL TSA

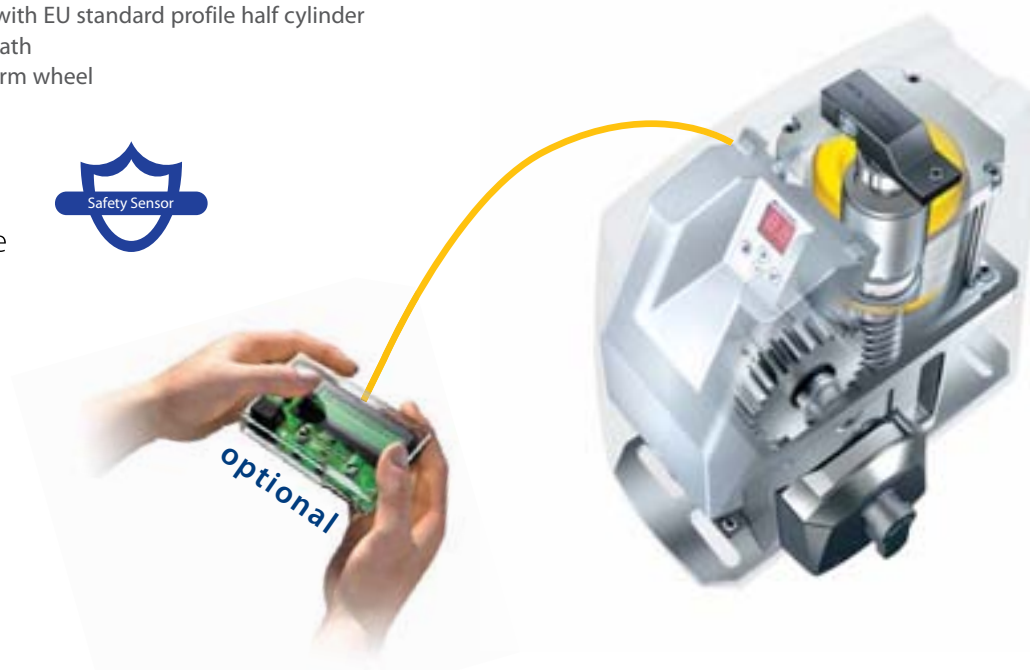
Technical data

- Up to 400kg gate weight
- Up to 20 cycles/day
- Speed: 11m/min

Product features PULL TSA

- Programmable with four buttons and 7-segment display or optionally via LC-Display (2 x 16 characters)
- Selectable operation mode (Impulse, Automatic, Deadman)
- Event memory for the last 800 cycles
- 1m partial opening for pedestrians (also radio-controlled)
- Encapsulated control board
- **Self-learning end positions**
- **Permanent automatic force regulation**
- ARS – Automatic Reversal System
- **Direct connection of 8,2 kΩ safety sensing edges separated for main and side edge.**
- Adjustable soft stop
- Receiver RS 868 integrated
- Up to 48 transmitters can be programmed
- Memory of the radio receiver manageable from the display
- Emergency release secured with EU standard profile half cylinder
- Gearing unit running in oil bath
- Tempered steel gear and worm wheel

Receiver RS 868 integrated



Equipment

Type		Product code
Display in housing	for programming, incl. 20cm cable	12111250
Profile half-cylinder with 3 keys	simultaneous locking for tousek-emergency release	13300220



The max. gate weight is for easy moving and horizontal gates.





PULL TSA - KIT

Kit includes:

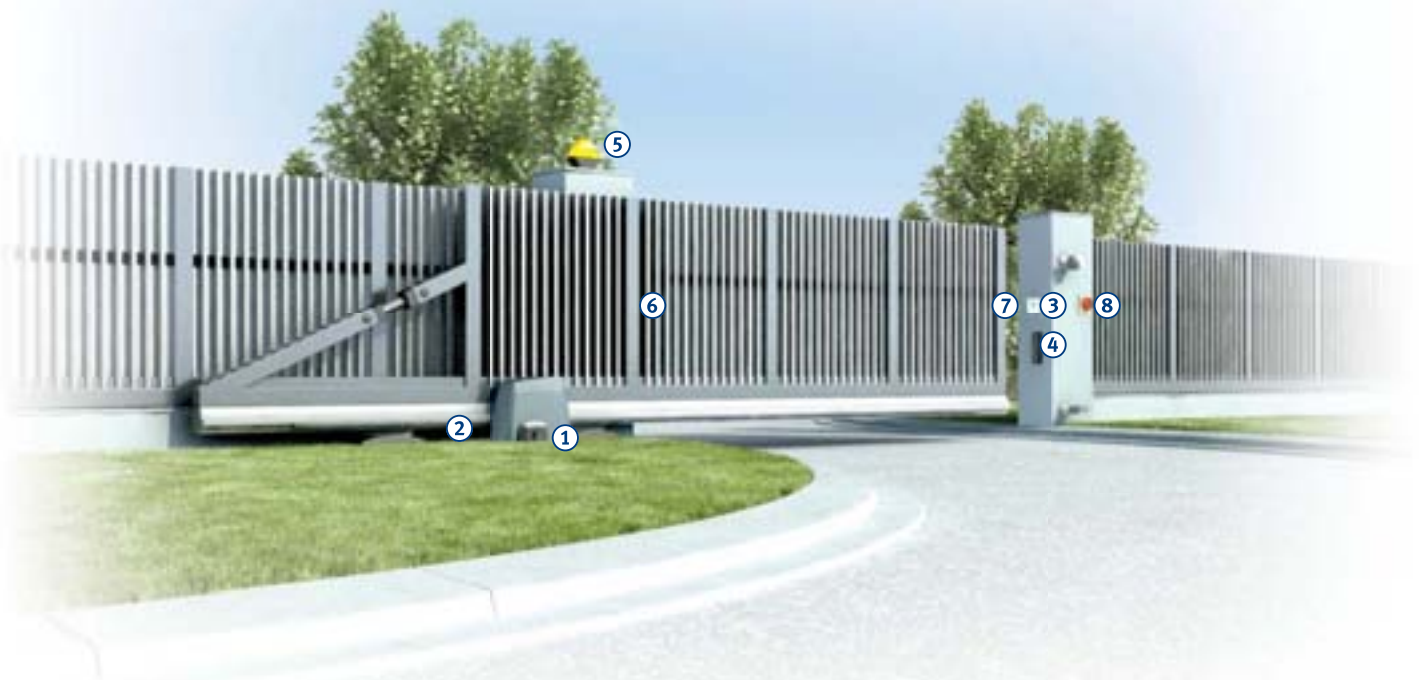
- 1 operator
- 1 receiver RS 868, 2-channels integrated
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41

Product code

PULL TSA-Kit

61006

- | | |
|-----------------|---|
| ① Operator | ⑥ Active safety edge for side safety edge |
| ② Gear rack | ⑦ Passive edge for main safety edge |
| ③ Key-, codepad | ⑧ Main switch |
| ④ Photocell | |
| ⑤ Signal lamp | |





Sliding gate automation PULL T

Product features of PULL T

- Large illuminated and **removable** LC-Display ((2x16 characters)
- Clear text menu programmable through four buttons
- Operation mode is selectable (impulse, automatic, dead man)
- **Self-learning end positions (limit detection)**
- **Permanent automatic force regulation**
- **Even with reduced rotation speed no loss of force**
- ARS - Automatic Reversal System
- **Direct connection of 8,2 kΩ safety sensing edges, separated for main and side safety closing edge**
- Status display for safety and switch inputs
- Adjustable soft stop (distance and speed)
- Adjustable partial opening for pedestrians or car/truck function
- Partial opening also with transmitter
- Lockable emergency release
- Gearing unit running in oil bath
- Connection slot for receiver
- Encapsulated control unit
- Emergency release secured with standard profile half cylinder
- Worm wheel and spindle made of tempered steel
- Available in German, English, Spanish, French, Czech, Polish and Italian



Additional features for PULL T24

- 24V motor
- In idle mode low power consumption with switching power supply
- Integrated backup battery use possible



Removable display



Emergency release secured with standard profile half cylinder

Examples for display



Adjustable speed



Adjustable partial opening for pedestrians or car/truck function



Display of pause time



Adjustable soft stop



Sliding gate automation PULL T

+ PULL T Kits



Type	Max. gate weight	Power supply	Duty cycle	Speed (m/min)	Product code
PULL T5	up to 500 kg	230V	20/day	11	11110370
PULL T8	up to 800 kg	230V	40%	11	11110380
PULL T24	up to 600 kg	230V	40–80%	13	11110540
PULL T24speed	up to 400 kg	230V	40–80%	16	11110550



The max. gate weights are for easy moving and horizontal gates.
The duty cycle is dependent on gate weight. Please also see technical data sheets.

PULL T - KITS

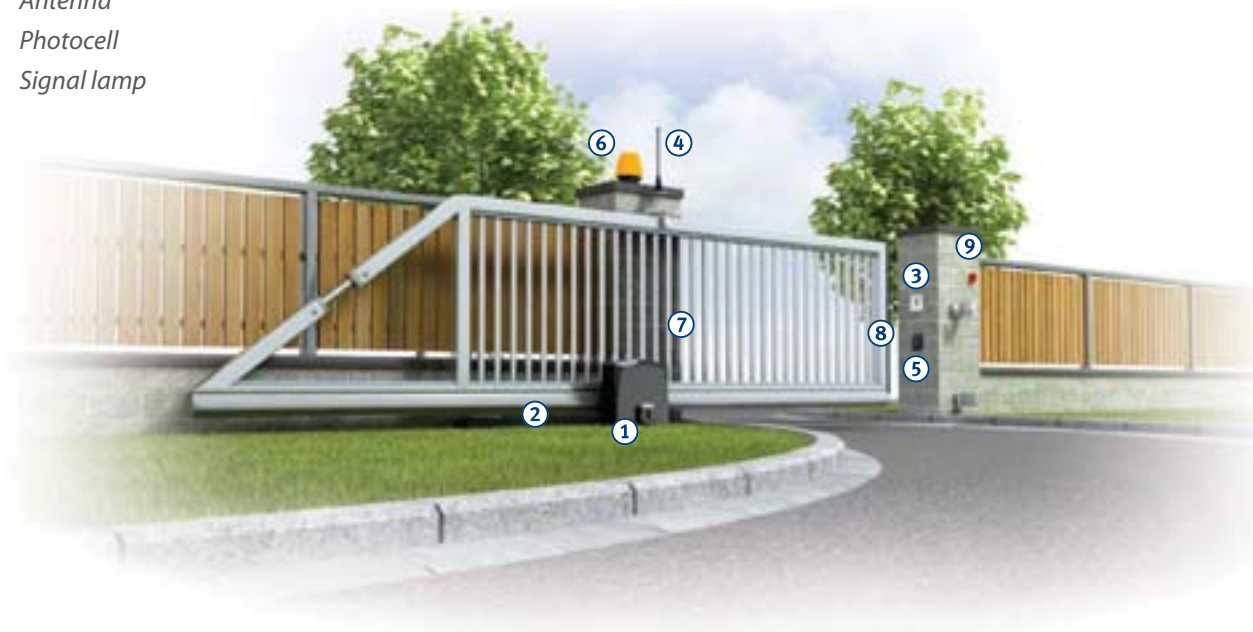
Kit includes:

- 1 operator
- 1 receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41

Kit	Product code
PULL T5-Kit	61007
PULL T8-Kit	61008
PULL T24-Kit	61009
PULL T24speed-Kit	61010



- ① Operator
- ② Gear rack
- ③ Key-, codepad
- ④ Antenna
- ⑤ Photocell
- ⑥ Signal lamp
- ⑦ Active safety edge for side safety edge
- ⑧ Passive edge for main safety edge
- ⑨ Main switch





Sliding gate automation

PULL T8, T10 and T15

Product features PULL T

- Large, illuminated and **removable** LC-Display (2x16 characters)
- Clear text menu programmable via four buttons
- Selectable operation mode (Impulse, Automatic, Deadman)
- **Self-learning end positions**
- **Permanent automatic force regulation**
- **Even with reduced rotation speed no loss of force**
- ARS – Automatic Reversal System
- **Direct connection of 8,2 kΩ safety sensing edges separated for main and side edge**
- Status display for safety and button/switches inputs
- Adjustable soft stop (way and speed)
- Free adjustable partial opening for pedestrians or car/truck function
- Partial opening also radio operated
- **Master / Slave for sliding gates running in opposite direction**
- Gear made of hardened steel
- Gearing unit running in oil bath
- Connection slot for radio receiver
- Encapsulated control board
- Lockable emergency release (secured with EU standard profile half cylinder)
- Worm shaft and worm wheel made of hardened steel
- Available in German, English, Spanish, French, Czech, Polish and Italian



Type	Max. gate weight	Power supply	Duty cycle	Speed (m/min)		Product code
PULL T8	up to 800 kg	230V	40%	11		Standard: 11110380 Traffic light: 11110510 Master: 11110430 Slave: 11110440
PULL T10	up to 1000 kg	230V	40–60%	9	NEW	Standard: 11110390 Master: 11110640 Slave: 11110650
PULL T15	up to 1500 kg	230V	60%	9	NEW	Standard: 11110570 Master: 11110680 Slave: 11110690



The max. gate weights are for easy moving and horizontal gates.
The duty cycle is dependent on gate weight. Please also see technical data sheets.





Battery for PULL T24

For max. 10 cycles / load including mounting bracket



S35116

Gate status display incl. fault signaling contact

Status display: open, closed, in motion, outside the end positions



Only one of the two additional modules can be used.

Gate status display 12111310

Signal transmission system TX 400i

Inductive, for DIN-rail (width 23mm), see page 102



TX 400i

13660390

Pillar with fork

hot-dip galvanised, height adjustable

13660190

Additional module for courtyard/control lamp

Up to 100W, 230V programmable via menu for up to 15 minutes



Only one of the two additional modules can be used.

Gate courtyard/control lamp 12111300

Angle including DIN rail

Width of the DIN rail 75mm



14110210

I-loop detector ISD 5 or ISD 5/2

For DIN-rail (width 38mm)



ISD 5 1-channel 13430130

ISD 5/2 2-channels 13430120

Radio transmission system TX 310

Bidirectional system 868MHz, with 1 receiver and 1 transmitter



TX 310 Kit

1 channel

13660380

TX 310/2 Kit

NEW

2 channels, incl. second transmitter

13660530

Programmable timer

For DIN-rail (width 37mm or 54mm)



Week 13460020

Year 13460030



Sliding gate automation

TPS 6speed

Product features TPS 6speed

- Suitable for heavy duty use (100% duty cycle)
- Large, illuminated LC-Display (2x16 characters))
- Clear text menu programmable via four buttons
- Operation mode is selectable (Impulse, Automatic, Deadman)
- Free adjustable partial opening for pedestrians or car/truck function
- Distance measurement made via ABSOLUTE ENCODER (without limit switches), NO need of learning cycles after unlocking or power failure
- Adjustable soft stop (separated for OPEN and CLOSE movement), controlled by frequency converter
- Mechanical brake for safe gate stop
- Electronic monitoring of the emergency release
- Direct connection of **four separated** 8,2 kΩ safety sensing edges
- **Input for rear area monitoring**
- Status display for safety and button inputs
- Self monitoring of photocells
- Slot for radio receiver
- Optional external gate status display (e.g. for concierge)
- Optional courtyard lamp module (230V, 100W)
- DIN rail for additional accessories: 60mm und 130mm
- Dimension (B x H x T): 610 x 530 x 211mm
- Height adjustable gear wheel-OK: 110–185mm
- Gear wheel Z20 module 4



NEW
available from
summer 2016

30m/min



Type	Max. gate weight	Power supply	Duty cycle operating mode S1	Speed (m/min)	Product code
TPS 6speed	up to 600 kg	230V	100%	30	11110620
Steel gear rack	1m, module 4, 20mm wide version				14210110
Mounting bracket	4 angles incl. screws for wide gear rack, per meter				14220100

The max. gate weights are for easy moving and horizontal gates.

We recommend to use the wide rack.



With speeds up to 20m / min you can secure the closing edges by means of the contact strip TXK105.

For higher operation speeds it is possible to secure hazard point by using separating protective devices.

(s. EN 12453:2000 5.1.1) or in dead man mode.





TPS 20

- Suitable for heavy duty use (80% duty cycle)
- Large, illuminated LC-Display (2x16 characters)
- Clear text menu programmable via four buttons
- Operation mode is selectable (Impulse, Automatic, Deadman)
- Free adjustable partial opening for pedestrians or car/truck function
- Distance measurement made via speed sensor (without limit switches)
- Adjustable soft stop (distance and speed)
- ARS – Automatic Reversal System
- Mechanical brake for safe gate stop
- Permanent self-regulating force with boost function (increased start force)
- Electronic monitoring of emergency release
- Direct connection of four separate 8,2 kΩ safety contact edges
- Input for gate back area surveillance
- Suitable for traffic control operation in combination with STA 11
- Status display for safety and button/switches inputs
- Self-monitoring of photocell
- Connection slot for radio receiver
- Optional, external gate status display (e.g. for concierge)
- Optional courtyard lamp module (230V, 100W)
- 2 x 130mm DIN rail for additional accessories
- Dimension (W x H x D): 610 x 530 x 211mm
- Height adjustable gear wheel (up.part): 100–175mm

Further product features for TPS 20N

- Galvanized base housing
- 260mm DIN-rail for additional accessories
- Dimension (W x H x D): 328 x 950 x 188mm
- Height adjustable gear wheel (upper part): 107–147mm

Further product features for TPS 20 PRO

- Main housing made of powdercoated, galvanised steel
- Door made of powdercoated aluminium and lockable with standard cylinder
- Optional, height adjustable fork or angle for signal transmission system
- Integrated main power switch and 230V Schuko plug
- DIN rail for additional accessories, 2 x 120mm + 300mm inside the door
- Dimension (W x H x D): 520 x 995 x 230mm
- Height adjustable gear wheel (upper edge): 120–200mm



TPS 20



TPS 20N



TPS 20 PRO

Type	Max. gate weight	Power supply	Duty cycle	Speed (m/min)	Product code
TPS 20	up to 2000 kg	230V	80%	14	Standard 11110460 Master 11110490 Slave 11110500
TPS 20N	like TPS 20, for columns/pillars at installation site				Standard 11110470 Master 11110660 Slave 11110670
TPS 20 PRO	like TPS 20 but in large PRO-housing				11110480
STA 11	Traffic light control unit				12120370
2 pcs. TXK 65-BA	for PRO: safety sensing edges incl. C-profile, length 800mm				13650240



The max. gate weights are for easy moving and horizontal gates.
For gate weight > 1000kg we suggest to use the wide gear rack version.





Sliding gate automation

TPS 35 PRO

Product features TPS 35 PRO

- Suitable for heavy duty use (100% duty/cycle)
- Large, illuminated LC-Display (2x16 characters)
- Clear text menu programmable via four buttons
- Operation mode is selectable (Impulse, Automatic, Deadman)
- Free adjustable partial opening for pedestrians or car/truck function
- **Optional self-learning end positions or manual setting**
- **Distance measurement via absolute encoders (no limit switches), no need of learning the way after unlocking or blackout**
- Adjustable soft stop (distance and speed)
- Adjustable speed (separately for OPEN and CLOSE), controlled by a frequency converter
- **Mechanical brake for safe gate stop**
- Electronic monitoring of the emergency release
- Direct connection of **four separate** 8,2 kΩ safety contact edges
- **Input for gate back area surveillance**
- Status display for safety and impulse connections
- Self-monitoring of photocell
- Connection slot for radio receiver
- Optional, external gate status display (e.g. for concierge)
- Optional courtyard lamp module (230V, 100W)
- DIN rail for additional accessories, 2 x 130mm + 300mm inside the door
- Dimension (B x H x T): 520 x 995 x 230mm
- Height adjustable gear wheel (upper edge): 133-173mm
- Gear wheel Z13 module 6



TPS 35 PRO



Type	Max. gate weight	Power supply	Duty cycle operating mode S1	Speed (m/min)	Product code
TPS 35 PRO	up to 3500 kg	230V	100%	18	11110610
2 pcs. TXK 105-BA	NEW for PRO: safety sensing edges (passage edge) incl. C-profile, length 800mm				13650330
Load arm for TX 100/TX 400i	hot-dip galvanised, height adjustable				13660290
Steel Rack	1m, module 6 , galvanized, to bolt on				14210140
Galvanized mounting brackets	for steel racks module 6, 4 pcs. incl. screws				14220110



The max. gate weight is for easy moving and horizontal gates.
For gate weight > 1000kg we suggest to use the wide gear rack version.





Product features TPS 60 PRO

- Integrated control unit with frequency converter
- Large, illuminated LC-Display (2x16 characters)
- Clear text menu programmable via four buttons
- Operation mode is selectable (impulse, automatic, dead man)
- Adjustable partial opening for pedestrians or car/truck function
- Distance measurement through revolution speed sensor (contactless)
- Adjustable soft stop (distance and speed)
- Direct connection of 8,2 kΩ safety sensing edges separately for main and side safety sensing edge
- Status display for safety and switch inputs
- Self monitoring of photocell
- External gate status display (e.g. doorman)
- Main housing made of brushed stainless steel
- Aluminium cap, powder coated
- Cover lockable with EURO standard cylinder
- Integrated main switch and 230V Schuko socket
- Optional, height adjustable load arm/bracket for power supply system
- Dimension (W x H x D): 520 x 1365 x 230mm
- DIN rail for additional accessories, 1 x 120mm + 300mm inside the door
- Height adjustment gear wheel-OK: 230–270mm
- Gear wheel Z17 module 6

6.000kg

NEW
with module 6



Display control with frequency converter

Type	Max. gate weight	Power supply	Duty cycle	Speed (m/min)	Product code
TPS 60 PRO	up to 6000 kg	400V	80%	9	11110700
Steel rack	1m, module 6 , galvanised, to bolt-on				14210140
Mounting bracket	galvanised, for gear rack module 6, 4 pcs. inc. screws				14220110
ISD 6	2-channel loop detector, pluggable				13430140
Load arm for TX 100/TX 400i	hot-dip galvanised, height adjustable				13660290
2 pcs. TXK 105	safety sensing edges incl. C-profile, length 1.300mm				13650280



The max. gate weights are for easy moving and horizontal gates.



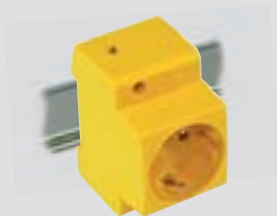


Sliding gate automation

Accessories for TPS

Power socket

For DIN-rail
(width 45mm)



13400250

Main switch

For DIN-rail
(width 52mm)



13310090

Signal transmission system TX 400i

Inductive, for DIN-rail
(width 23mm), see page 102



TX 400i

13660390

Fork for TPS 20 PRO

13660290

Programmable timer

For DIN-rail
(width 37mm or 54mm)



Week

13460020

Year

13460030

Gate status display incl. fault signaling contact

Status display: open, closed, in motion, outside
of end positions



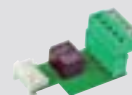
Only one of the two additional modules can be used.

Gate status display

21110420

Additional module for courtyard/control lamp

Up to 100W, 230V programmable via menu for
up to 15 minutes



Only one of the two additional modules can be used.

Gate courtyard/control
lamp

21110490

I-loop detector ISD 5 or ISD 5/2

For DIN-rail (width 38mm)



ISD 5 1-channel 13430130

ISD 5/2 2-channels 13430120

PTFE wire **NEW**

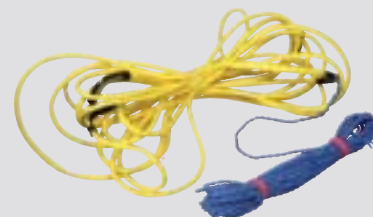
1 bunch = 70m



13400270

Ready made induction loop

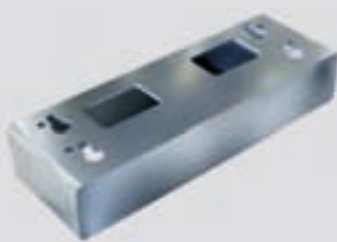
Incl. 10m twisted cable, see page 93



13400220

120mm distance console for TPS 20

Galvanized



14650310

Pre-installation incl. prewiring



**In order to save time on site, you can have your
sliding gate automation TPS 20 „Ready to use“
in our house.**

e.g. 1 loop detector or 1 main switch or 1 plug or 1 signal transmission system or 2 safety contact
edges with TPS 20 PRO or 1 program timer (excl. programming).

Installation or assembly

14150190

Sliding gate automation

Accessories for PULL TSA, PULL T, PULL XD



Plastic gear rack with steel core

Bolt-on, 1m
mounting link up



14220010

Plastic gear rack with steel core

Bolt-on, 1m
mounting link down



14220020

Mounting equipment 6 bolts M6x14 incl. plates
14220040

Plastic gear rack with steel core

Bolt-on, mounting link down, 3 x 0,33m
incl. mounting equipment



14220060

4m packaging unit
S35104

Steel rack for welding

Galvanised, with mounting equipment
(spacer pins, washer and screws)



1m gear rack

14210010

4m packaging unit
S35105

Steel rack to bolt-on

Galvanised, with mounting equipment
(spacer pins, washer and screws)



1m gear rack

14210020

4m packaging unit
S35103

Stainless steel gear rack to bolt-on

INOX 304, with mounting equipment
(spacer pins, washer and screws)



1m gear rack

14210050

Steel rack wide version

Width: **20mm**

recommended for weight above 1.000kg,
galvanised, excl. mounting equipment



14210110

Steel rack **module 6**

galvanised, for TPS 35 and TPS 60



1m gear rack

14210140

Mounting equipment for gear rack

4 angles incl. bolts,
galvanised



for wide gear rack 14220100

for gear rack module 6 14220110



Sliding gate automation

Accessories for PULL TSA, PULL T, PULL XD

Foundation plate PULL

Galvanised and adjustable



PULL T

14110030

PULL XD

14110040

Mounting plate cranked PULL

Height adjustable, hot-dip galvanised



PULL TSA **NEW**

14650320

PULL T

14650120

PULL XD

14650130

Mounting plate PULL

Height adjustable, hot-dip galvanised

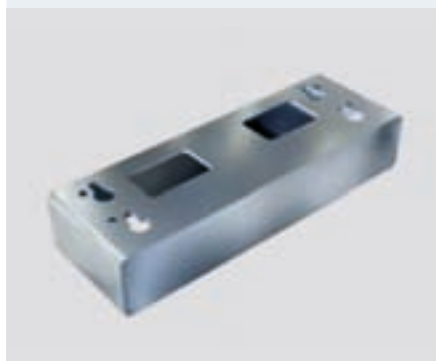


PULL T

14630070

120mm distance-console for TPS 20

Galvanised



14650310

Travel speed limiter

For ascending sliding gates up to 7Nm or 12,2Nm torque



7Nm: 35400100

12,2Nm: 35400210



Description	PULL TSA	PULL T5	PULL T8	PULL T10	PULL T15	PULL T24	PULL T24speed
Gate weight	400kg	500kg	800kg	1000kg	1500kg	600kg	400kg
Gear wheel	Z20	Z20	Z20	Z16	Z16	Z16	Z20
Power supply	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%
Motor voltage	230V	230V	230V	230V	230V	24V	24V
Max. drive distance	30m	30m	30m	30m	30m	30m	30m
Duty cycle *	20/Tag	20/Tag	S3 40 %	S3 40–60 %	S3 60 %	S3 40–80 %	S3 40–80 %
Speed	11 m/min.	11 m/min.	11 m/min.	9 m/min.	9 m/min.	13 m/min.	16 m/min.
Torque	15Nm	20Nm	25Nm	25Nm	30Nm	20Nm	20Nm
Power consumption	1,3A	1,6A	1,6A	1,9A	2,2A	1A	1A
Protection class	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
LCD with text programming	7-Segment	■	■	■	■	■	■
Integrated control board	■	■	■	■	■	■	■
Automatic Reversal System	■	■	■	■	■	■	■
Self-learning limit positions	■	■	■	■	■	■	■
Soft stop	■	■	■	■	■	■	■
Pedestrian entry function	■	■	■	■	■	■	■
Dead man function	■	■	■	■	■	■	■
Autom. courtyard lamp (adjust.)		optional	optional	optional	optional	optional	optional
Lockable emergency release	■	■	■	■	■	■	■
Integrated 8,2kΩ resistance evaluator, 2-channel	■	■	■	■	■	■	■

Description	TPS 6speed	TPS 20(N,PRO)	TPS 35 PRO	TPS 60 PRO
Gate weight	600kg	2000kg	3500kg	6000kg
Gear wheel	Z20 module 4	Z15	Z13 module 6	Z17 module 6
Power supply	230V±10%	230V±10%	230V±10%	400V±10%
Motor voltage	3 x 230V	230V	3 x 230V	3 x 400V
Max. drive distance	30m	30m	30m	60m
Duty cycle *	S1 100%	S3 80%	S1 100%	S3 80%
Speed	30m/min.	14m/min.	18m/min.	9m/min
Torque	70Nm	45Nm	100Nm	300Nm
Increased driving torque	/	65Nm	/	/
Power consumption	3,0A	4,0A	3,0A	5,0A
Protection class	IP44	IP44	IP44	IP44
LCD with text programming	■	■	■	■
Integrated control board	■	■	■	■
Automatic Reversal System		■		■
Friction clutch				
Contactless limit switches				■
Self-learning limit positions	■	■	■	■
Soft stop	■	■	■	■
Pedestrian entry function	■	■	■	■
Dead man function	■	■	■	■
Autom. courtyard lamp (adjust.)	optional	optional	optional	
Lockable emergency release				
Integrated 8,2kΩ resistance evaluator, 2-channel	4-channels	4-channels	4-channels	■
Force adjustment	frequency converter	via menu	frequency converter	frequency converter

Note: the max. gate weights are for easy moving and horizontal gates.

*The duty cycle depends on the gate weight. Check also technical data sheets.



Notes



Overview cantilever systems

Page

Steel

Rollco® LWS 101	■	4,00 m	up to 25kg/m	28–31
Rollco® LWS 111	■	6,25 m	up to 60kg/m	28–31
Rollco® LWS 125	■ ■	9,10 m	up to 150kg/m	28–31

Aluminium

Rollco® LWA 115	■	5,80 m	up to 40kg/m	32–35
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Cantilever system

Rollco® LWS 101, Rollco® LWS 111 and Rollco® LWS 125

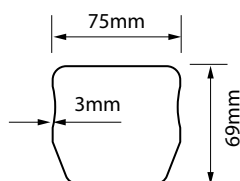
Product features

- Cold-rolled hot-dip galvanised steel
- Galvanised rolling gear with ball bearing rollers
- Including heavy load anchor
- Rolling gear with adjusting bolts for easy alignment
- Optional stainless steel plates



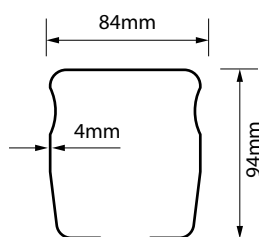
Hot-dip galvanised

LWS 101



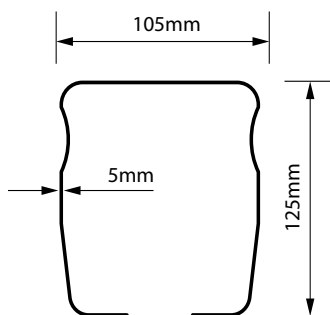
- Gate cycles: 20 cycles/day
- Load weight: 25kg/m
- Weight: 5,5kg/m

LWS 111



- Drilling indicator for easier gear rack mounting
- Rolling gear with adjusting bolt against tilting form change of load
- Rolling gear with vertical pair of rollers as good value alternative
- Rolling gear plastic covers
- Gate cycles: 30 cycles/day
- With small roller: 20 cycles/day
- Load weight: up to 60kg/m
- Weight: 9kg/m

LWS 125



- Drilling indicator for easier gear rack mounting
- Rolling gear with adjusting bolt against tilting form change of load (S+L)
- Rolling gear plastic covers (S+L)
- Gate cycles: 100 cycles/day (S+L)
200 cycles/day (X)
- Load weight: up to 150kg/m
- Weight: 15kg/m
- Serially with stainless steel underlying plates (S+L) respectively zinc coated ground plates (X)

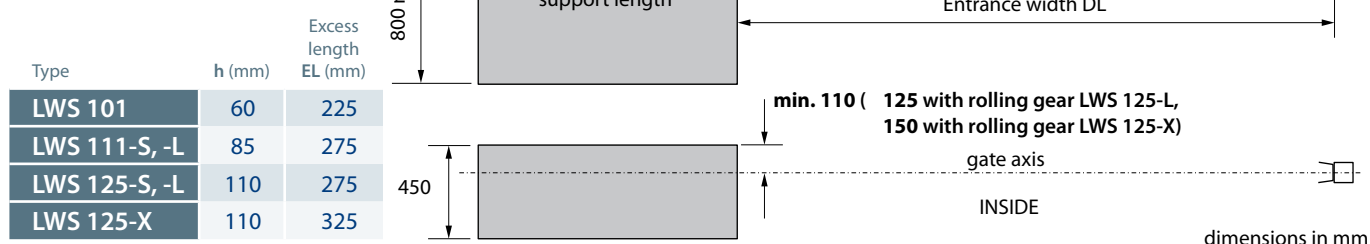
Cantilever system

Rollco® LWS 101, Rollco® LWS 111, Rollco® LWS 125



Legend:

- ① Steel track
- ② Rolling gear
- ③ End plate
- ④ Guide-in bracket
- ⑤ Guide-in bracket
- ⑥ Turnbuckle
- ⑦ Guide bracket



Total length L = track length (PL) + 6mm		Rollco® LWS 101 / Max. load weight				
DL (entrance width) mm		3000	3250	3500	3750	4000
PL (track length) mm		4300	4700	5200	5600	6000
Em (support length) mm		850	1000	1250	1400	1550
Max. load weight kg/m		25				

Total length L = track length (PL) + 10mm						Rollco® LWS 111 / Max. load weight										
DL (entrance width) mm		3000	3250	3500	3750	4000	4200	4500	4750	5000	5250	5500	5700	5900	6100	6250
PL (track length) mm		4200	4700	5000	5400	5700	6000	6400	6800	7150	7500	7850	8000	8000	8400	8400
Em (support length) mm		650	900	950	1100	1150	1250	1350	1500	1600	1700	1800	1750	1550	1750	1600
Max. load weight kg/m	Rolling gear S	50						40					/			
	Rolling gear L	60						50					45	40	35	

Total length L = track length (PL) + 10mm		Rollco® LWS 125 / Max. load weight											
DL (entrance width) mm		3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9100
PL (track length) mm		5000	5700	6400	7100	7800	8500	9200	10000	10600	11300	12000	12000
Em (support length) mm	Rolling gear S, L	950	1150	1350	1550	1750	1950	2150	2450	2550	2750	2950	/
	Rolling gear X	850	1050	1250	1450	1650	1850	2050	2350	2450	2650	2850	2350
Max. load weight kg/m	Rolling gear S	75	70	65	60	55	/						
	Rolling gear L	120	110	100	90	85	80	75	70	65	60	55	/
	Rolling gear X	150	130	120	110	100	90	80	70	60	50	40	30

The above values are reference values. We can calculate the necessary dimensions for your sliding gate.



Cantilever system

Rollco® LWS 101, LWS 111 and LWS 125



Rollco® LWS 101 - KIT

6000mm steel track, incl. 2 units rolling gear

Cantilever kit Rollco® LWS 101	Product code
For max. DL 4000mm	S46124
For a common delivery of 6 kits	S46124
Stainless steel plate	14610080

Rollco® LWS 111

Steel tracks Rollco® LWS 111	Steel track length	Product code
For max. DL 3000mm	4200mm	14610170
For max. DL 4200mm	6000mm	14610100
For max. DL 6250mm	8400mm	14610180

Rolling gear for LWS 111

2 units necessary, height adjustable, steel rollers, galvanised, incl. covers

Rolling gear LWS111-S		14610130
Rolling gear LWS111-L	adjustable in inclination	14610120
Stainless steel plate		14610050

Rollco® LWS 125

Steel tracks Rollco® LWS 125	Steel track length	Product code
For max. DL 5000mm	7100mm	14620230
For max. DL 6000mm	8500mm	14620240
For max. DL 7000mm	10000mm	14620250
For max. DL 9100mm	12000mm	14620260

Rolling gear for LWS 125

Max. load weight Product code

Rolling gear LWS125-S, LWS125-L

2 units necessary, height adjustable, steel rollers, galvanised, incl. covers and stainless steel plate

Rolling gear LWS125-S	75kg/m	14620280
Rolling gear LWS125-L	120kg/m	14620270

Rolling gear LWS125-X

Hinge bearing in main axis for optimal load distribution on all 4 rollers
2 units necessary, steel rollers, galvanised, incl. stainless steel plate, 200 cycles/day

Rolling gear LWS125-X	150kg/m	14620290
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Cantilever system

Rollco® LWS 101, LWS 111 and LWS 125 equipment



End plate Galvanised  For LWS 101 14650180	End plate Galvanised, with track roller  For LWS 101 14650190	End plate Galvanised, with rubber bumper  For LWS 111 14650220 For LWS 125 14650250	End plate Galvanised, with rubber bumper and track roller  For LWS 111 14650230 For LWS 125 14650240
Limit stop to be clamped, with rubber bumper  For LWS 101 14650210 For LWS 111, 125 14650170	Guide-in bracket Galvanised  For LWS 101 14650200 For LWS 111 14650100 For LWS 125 14650110	Guide-in bracket with roller Galvanised, for gates with contact edge  For LWS 14650140	Guide-in fork bracket opening 60mm or 80mm, hot-dip galvanised, incl. 2 polyamide rollers  MW 60 14650050 MW 60, galvanised 14650160 MW 80 14650270
Limit stop reinforced version for TPS 35 PRO and TPS 6speed to be clamped, with rubber bumper  frictional force 20.000N 14650330	Guide bracket Straight, hot dip galvanised, for gate size up to 100mm  14650010	Guide bracket Angled, hot dip galvanised, for gate frame size up to 100mm  14650020	Contact-corrosion safety stripe 20m strip for aluminium works, 3 x 60mm  14630140
Turnbuckle For tension strut, galvanised  For tube 60/60/3mm 14650030 For tube 80/80/3mm 14650260	Guide-in bracket console Version: 140mm or 220mm incl. counter plate and bolts  small: 140mm 14650280 large: 220mm 14650290	<p>Mounting examples:</p> <p>Guide-in bracket console</p>  <p>Guide-in fork bracket console</p> 	

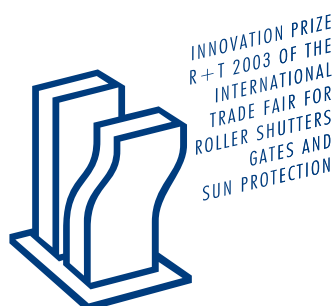


Cantilever system

Rollco® LWA 115/1

Product features LWA

- Very smooth running
- Corrosion-resistant - natural aluminium
- Track for limit switches
- Slide-in plastic gear rack incl. gear rack cover
- Mounting of gate without drillings on profile possible!



Flexible

The rolling gears are adjustable in height and are tiltable in order to exclude completely any load change reactions.



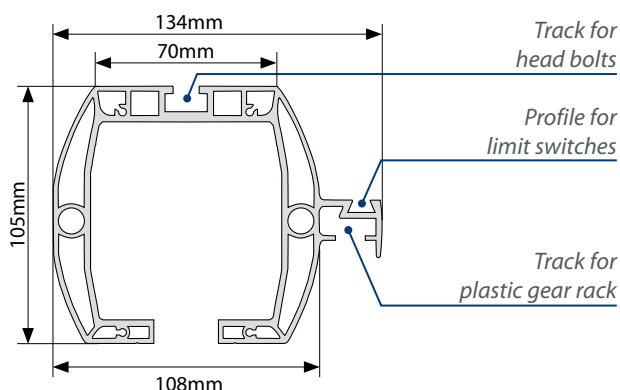
Smooth running

The aluminium cantilever track, in combination with the solid rolling gear and large, ball-bearing polyamide rollers guarantees the highest smoothness.

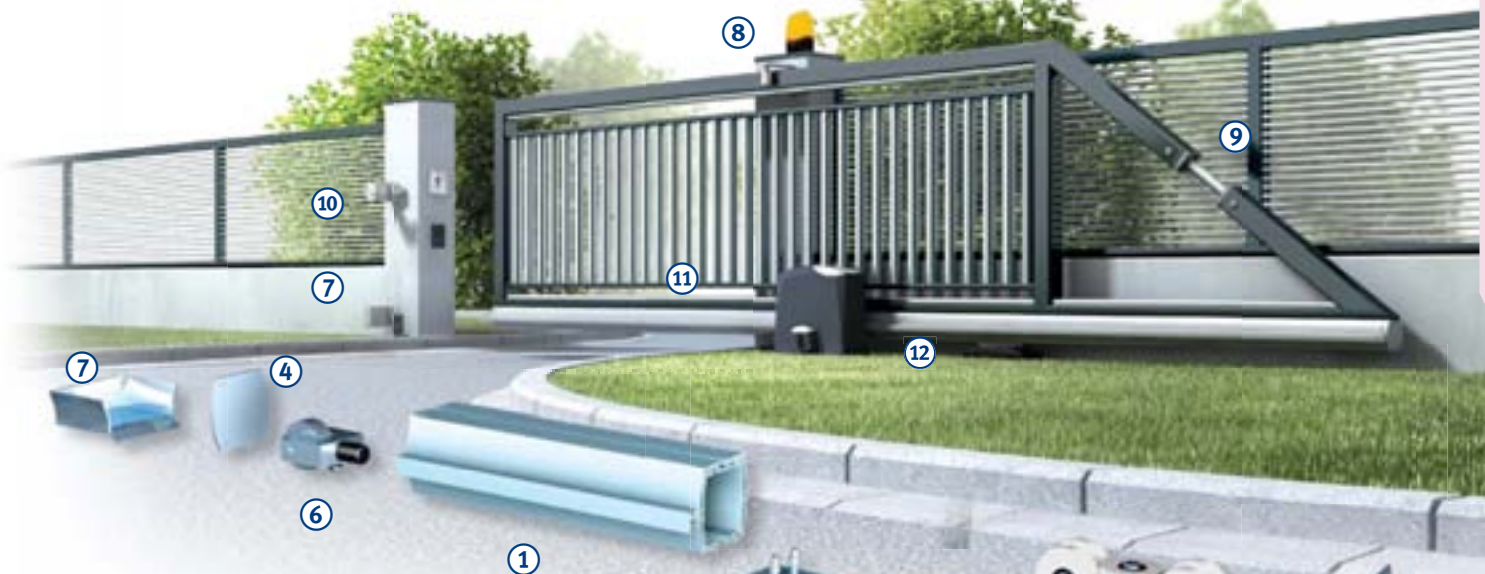


Efficient

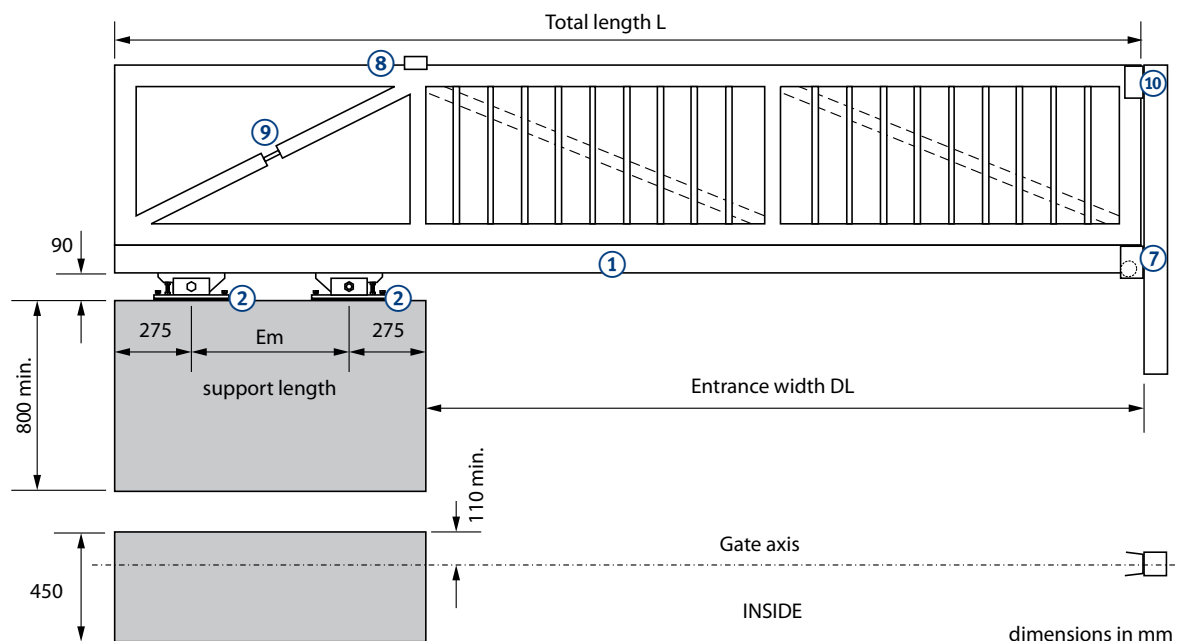
The technically innovative cantilever track allows time-saving and efficient installation of gear rack and limit switches.



- Rolling gear with adjusting bolts
- Against tilting change of load
- Rolling gear adjustable in height
- Polyamide rollers
- Rolling gear covers in plastic
- Optional stainless steel plate
- Gate cycles: 50 cycles/day
- Load weight: up to 40kg/m
- Weight: 5kg/m



- ① Aluminium track
- ② 2 Rolling gears incl. covers
- ③ Motor mounting plate for tousek sliding gate automation
- ④ End plate in aluminium
- ⑤ Limit stop with rubber bumper
- ⑥ Track roller with rubber bumper
- ⑦ Guide-in bracket aluminium
- ⑧ Guide bracket stainless steel
- ⑨ Turnbuckle stainless steel
- ⑩ Guide in bracket stainless steel
- ⑪ Hammer head bolt stainless steel
- ⑫ Gear rack plastic



Total length L = track length (PL) + 6mm

Rollco® LWA 115 / Max. load weight

DL (Entrance width) mm	3000	3500	4000	4300	4500	5000	5500	5800
PL (track length) mm	4300	4900	5600	6000	6250	6900	7550	8000
Em (support length) mm	750	850	1050	1150	1200	1350	1500	1650
Max. load weight kg/m	40			35			30	

The above values are reference values. We can calculate the necessary dimensions for your sliding gate.



Cantilever system

Rollco® LWA 115/1

Rollco® LWA 115/1

Cantilever tracks Rollco® LWA 115/1	Aluminium track length	Product code
For max. DL 3000mm	4300mm	14630200
For max. DL 4300mm	6000mm	14630020
For max. DL 5800mm	8000mm	14630030



Gear rack

Made of plastic, for sliding into the aluminium track

Gear rack	2 x 0,5m	14220030
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Clamping piece (pair)

For fixing the gear rack inside track, stainless steel

Clamping piece (pair)		14630040
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Rolling gear for LWA 115

2 units necessary, height adjustable, nylon rollers, galvanised, incl. covers

Rolling gear LWA 115/1A		14630080
Stainless steel plate		14610050





Limit stop

Natural aluminium, to clamp,
with rubber bumper



14630110

Limit stop

Natural aluminium, to clamp,
with rubber bumper and roller



14630120

Hammer head bolt

For connecting the gate with profile, stainless
steel, with screw nut and discs



1-way: for gate frames 50–80mm,
2 units per m necessary

2-way: for larger load capacity
at the gate ends

1-way: 14630050

2-way: 14630060

Guide-in bracket

Opening 60mm, stainless steel,
incl. 2 polyamide rollers



14650160

Turnbuckle

For tension strut, galvanised,
for tube 60/60/3



14650030

Guide-in bracket for LWA 115/1

Natural aluminium, sand blasted



14630100

Guide bracket

Angled, stainless steel,
for gate frame size up to 100mm



14650150

End plates for LWA 115/1

Natural aluminium, front end plate with
plastic covers and gaskets



14630090

Corrosion protection tape

Tape 20m
for steel constructions, 3 x 60mm



14630140





Overview swing gate operators

Page

Electromechanical, surface-mounted

SLIM	■		up to 3,0m	up to 150kg	38–39
TURN	■		up to 3,0m	up to 350kg	40–41
TURN UP	■		up to 3,0m	up to 350kg	40–41
SWING X	■	■	up to 5,0m	up to 500kg	42–43
REX		■	up to 12m	up to 1.500kg	44–45
SPIN	■		up to 2,5m	up to 200kg	46–47

Electrohydraulic, surface-mounted

SWING 225	■	■	up to 2,5m	up to 400kg	48–49
SWING 265	■	■	up to 6,0m	up to 600kg	48–49

Electromechanical, underground-mounted

TURN 310 UF	■		up to 3,0m	up to 400kg	50–51
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Swing gate automation

SLIM

Product features SLIM

- 12V direct current motor
- Slim design/built
- Stainless piston rod
- Housing made of anodised aluminium
- With limit switches
- Mounting parts in stainless steel
- ARS Automatic Reversal System
- Optional with emergency battery for power failure
- Soft start and soft stop in combination with control unit ST12/5



Massive ball-bearing steel spindle



Stable motor attachment in high-grade steel



Stable motor attachment in high-grade steel

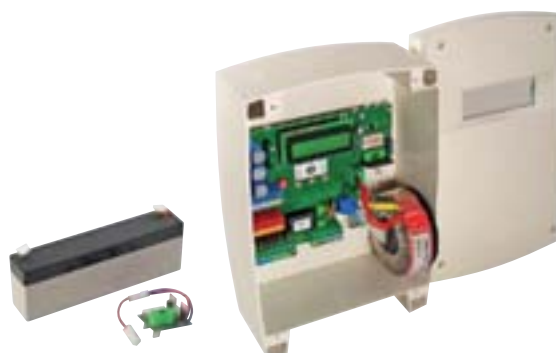
Type	Max. leaf weight	Max. leaf width	Working stroke	Duty cycle	Limit switches	Product code
SLIM CLR	150 kg	2,5m	330mm	20/day	■	11260280



Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!

General product features ST 12/5

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Connection slot for receiver
- Direct connection of 8,2 kΩ safety edges (separate inside/outside)
- Status display for safety and switch inputs
- Self-monitoring of photocell
- Adjustable soft stop
- Operating mode selectable (impulse, automatic, dead man)
- Adjustable partial opening for pedestrians also with one leaf
- Partial opening can also be remote controlled (transmitter)



Control unit ST 12/5

ST 12/5	with limit switch management	12111730
Battery DA2.2LP	12V, incl. charger for control ST12/5, up to max. 15 cycles/charge	S35110
Additional module courtyard/control lamp	for 230V lamp connection, max. 100W	21110620
Additional module gate status	potential free signal contacts, max. 24V, 10W	21110630

Only one of the two additional modules can be used.





SLIM - KITS

Kit includes:

- 2 motors incl. mounting equipment
- 1 control unit ST 12/5
- 1 receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41



Kit

Product code

SLIM CLR

2-leaves

2 x SLIM CLR

62002



- | | |
|-----------------------|-------------------------|
| ① Swing gate operator | ⑧ Signal lamp |
| ② Control unit | ⑨ Main switch |
| ③ Key-, codepad | ⑩ Emergency stop button |
| ④ Antenna | ⑪ Safety sensing edge |
| ⑤ Photocell outside | |
| ⑥ Photocell inside | |
| ⑦ Photocell pillar | |





Swing gate automation

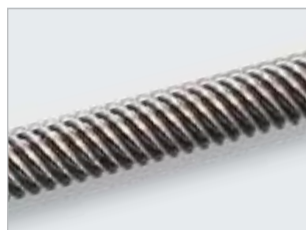
TURN, TURN UP

Product features TURN

- Blocking operator
- Force adjustment through control unit
- 230V AC-motor
- High torque
- Very silent operation
- Soft stop in combination with control unit ST51



Motor bracket for ascending gates



Massive operator spindle made of steel



Operator unit



Emergency release Turn UP: lockable with key

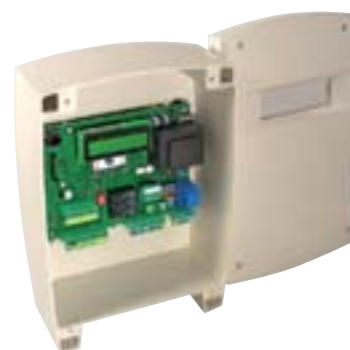
Type	Max. leaf weight	Max. leaf width	Working stroke	Duty cycle		Product code
TURN 10	350 kg	2,5m	303mm	20/day	left	11260210
					right	11260220
TURN 20	350 kg	3,0m	402mm	20/day	left	11260230
					right	11260240
TURN UP1	350 kg	2,5m	300mm	20/day	left	11260170
					right	11260180
TURN UP2	350 kg	3,0m	400mm	20/day	left	11260190
					right	11260200
Motor bracket for operator TURN			for ascending gates, galvanised			14120150
Motor bracket for operator TURN UP			for ascending gates, galvanised			14120160



Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!

Product features ST 51

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Connection slot for receiver
- Direct connection of 8,2 kΩ safety sensing edges (separate inside/outside)
- Status display for safety and switch inputs
- Self-monitoring of photocell
- Adjustable soft stop
- Operating mode selectable (impulse, automatic, dead man)
- Adjustable partial opening for pedestrians also with one leaf
- Partial opening can also be remote controlled (transmitter)



Control unit ST 51

ST 51		12111660
E-lock-/magnet module	magnetic output for open and close position	13810220
ST 51A	for traffic light operation, see page 79	12120350



TURN / TURN UP - KITS

Kit includes:

- 1 or 2 operator(s) incl. mounting equipment
- 1 control unit ST 51
- 1 radio receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41



Kits			Product code
TURN 10	2-leaves	①	62109
TURN 20	2-leaves	①	62110

TURN 20	1-leaf	②	left: 62111 right: 62112
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TURN UP 1	2-leaves	③	62113
TURN UP 2	2-leaves	③	62114

TURN UP 2	1-leaf	④	left: 62115 right: 62116
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- ① Swing gate operator
- ② Control unit
- ③ Key-, codepad
- ④ Antenna
- ⑤ Photocell outside
- ⑥ Photocell inside
- ⑦ Photocell pillar
- ⑧ Signal lamp
- ⑨ Main switch
- ⑩ Emergency stop button
- ⑪ Safety sensing edge





Swing gate automation

SWING X

Product features SWING X

- Self-locking gearing (blocking of gate)
- Emergency release lockable with standard cylinder
- Adjustable internal, mechanical limit stops
- ARS Automatic Reversal System
- Very massive ball-bearing spindle with bronze made screwed coupling
- Gimbal-mounted on both sides
- All parts made of high-grade materials, such as aluminium, stainless steel, bronze or galvanised steel
- Adjustable soft stop in combination with control unit ST61
- **Integrated speed sensor**



Massive motor-gearing device



Emergency release with standard cylinder



Integrated limit stops

Type	Max. leaf weight	Max. leaf width	Shearing force	Motor-power supply	Working stroke	Duty cycle	Art. Number
SWING X3	500 kg	3,0m	4000N	230V	320mm	40%	11260380
SWING X3 LH *	500 kg	3,0m	4000N	230V	450mm	40%	11260390
NEW SWING X4 HD	500 kg	4,0m	5000N	230V	320mm	60%	11260460
SWING X4 LHD *	500 kg	4,5m	5000N	230V	450mm	60%	11260470
SWING X5 LH *	500 kg	5,0m	6500N	230V	450mm	40%	11260420



Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!

The integrated mechanical limit stops of SWING X are for gates up to 200kg and for leaf width up to 3m.

* LH versions are for bigger gate pillars and larger opening angle.

General product features ST 61

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Rotation speed sensor input
- Connection slot for radio receiver
- Direct connection of 8,2 kOhm safety sensing edges separated (inside/outside)
- Status display for safety and impulse inputs
- Self-monitoring of photocell
- Adjustable soft stop
- Operating mode selectable (impulse, automatic, dead man)
- Free adjustable partial opening for pedestrians also with one leaf
- Partial opening can also be remote controlled (transmitter)



Control unit ST 61

ST 61		12111670
E-lock-/magnet module	magnet output for open and closed position	13810220
Additional module courtyard lamp/control lamp	for 230V lamp connection, max. 100W	21110490
Additional module for gate status	potential free signal contacts, max. 24V, 10W	21110420
ST 61A	traffic light board, see page 79	12120340

Only one of the two additional modules can be used.





SWING X - KITS

Kit includes:

- 1 or 2 operator(s) incl. mounting equipment
- 1 control unit ST 61
- 1 receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41

Kits

Product code

2-leaves ①

SWING X3	2-leaves	62208
SWING X3LH	2-leaves	62209
SWING X4 LHD	2-leaves	62210

1-leaf ②

SWING X3	1-leaf	62211
SWING X3LH	1-leaf	62212
SWING X4 HD	1-leaf	62213
SWING X4 LHD	1-leaf	62214

Motor console / gate side

For SWING X , massive finish, adjustable



Zinc coated	14120310
Stainless steel	14120370

Motor console / column side

For SWING X, massive finish



Zinc coated	14120280
Stainless steel	14120300

Electric remote emergency release

Release motor

12V

For SWING X, 230V,
Release or locking through
impulse button or transmitter
Automatic release in case of
line drop can be selected



13830040

Control unit (incl. battery and charger board)

Suitable for two release motors



12111090



Swing gate automation, fast folding gate automation

REX

Product features REX

- Suitable for heavy duty (100% ED)
- **Angle measurement made via ABSOLUTE ENCODER**
- **(without limit switches), NO need of learning cycles after unlocking or power failure**
- Built in mechanical stops
- Adjustable soft stop (distance and speed)
- Adjustable speed (separated for OPEN and CLOSE), controlled by frequency converter
- **Mechanical brake for safe gate stop**
- Electronic monitoring of the emergency release
- Dimension (B x H x T): 320 x 280 x 600mm

NEW
available from
autumn 2016



Type	Max. gate weight	Max. leaf width	Shearing force	Time for 90°
REX speed fold	2 x 200kg*	2 x 1,5m*	1.000Nm	5–20s
REX force	1.500kg	12m	2.800Nm	40–60s
Mounting bracket	for easy installation, for columns from 80mm to 300mm			
Gate arm				
Motor arm				
Remote emergency release	for installation into the column, with half profile cylinder			
Bowden cable	guide to motor hidden into the column			1,5m 2,5m



Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!
NOTE: The data supplied for the REX motor may change prior to the market launch!*

The indicated values refer to a folding leaf, i.e. for an entire passage: 4 x 200kg or 4 x 1,5m





Product features ST REX

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Connection slot for radio receiver
- Status display for safety and impulse inputs
- Self-monitoring of photocell
- Operating mode selectable (impulse, automatic, dead man)
- Free adjustable partial opening for pedestrians also with one leaf operation
- Partial opening can also be remote controlled (transmitter)
- Motor locking function
- Combined with STA11 traffic light operation (two lane and single lane control)
- Input for gate rear area monitoring
- Separate input for I-loop detectors
- 12V blinking light output
- Integrated fault signalling contact
- Optional, external gate status display (e.g. concierge)
- Optional courtyard module (230V, 100W)

Product features ST REX smart

- Integrated frequency converter
- Management of brakes, emergency release, motor and frequency converter
- Direct connection of 8,2 kΩ safety sensing edges separated (inside/outside)
- Connection to the master control via BUS line



Control unit ST REX

Product code

ST REX speed		
ST REX force		
ST REX smart	already integrated into the motor, incl. frequency converter	
STA 11	traffic light control unit	12120370
Additional module courtyard	for 230V Lichtanschluss, max. 100W	21110490
Additional module for gate status	potential free signal contacts , max. 24V, 10W	21110420

You can only use one of the two additional modules.



Speed folding gate



Swing gate automation

SPIN

Product features SPIN

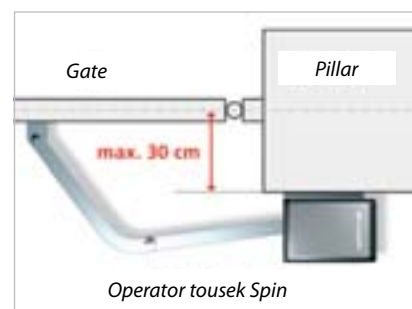
- Electromechanical operator with articulated arm
- Self-blocking (blocking of gate)
- Integrated limit switches
- Easy emergency release with socket key
- Opening and closing force through control unit continuously adjustable
- Soft stop in combination with control unit ST51
- 120° opening angle



Articulated arm with mounting angle



Strong gearing



Type	Max. leaf weight	Max. leaf width	Motor supply	Duty cycle	Speed	Type of installation	Product code
SPIN	200 kg	2,5m	230V	20 / Tag	9°/s	left right	11260290 11260300



Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!

General product features ST 51

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Connection slot for receiver
- Direct connection of 8,2 kΩ safety sensing edges (separately inside/outside)
- Status display for safety and impulse inputs
- Self-monitoring of photocell
- Adjustable soft stop
- Operating mode selectable (impulse, automatic, dead man)
- Free adjustable partial opening for pedestrians also with one leaf
- Partial opening can also be remote controlled through radio transmitters



Control unit ST 51

ST 51		12111660
E-lock-/magnetic module	magnetic output for open and close position	13810220
ST 51A	for traffic light operation, see page 79	12120350





SPIN - KIT

Kit includes:

- 2 operators incl. mounting equipment
- 1 control unit ST 51
- 1 radio receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41

Kit

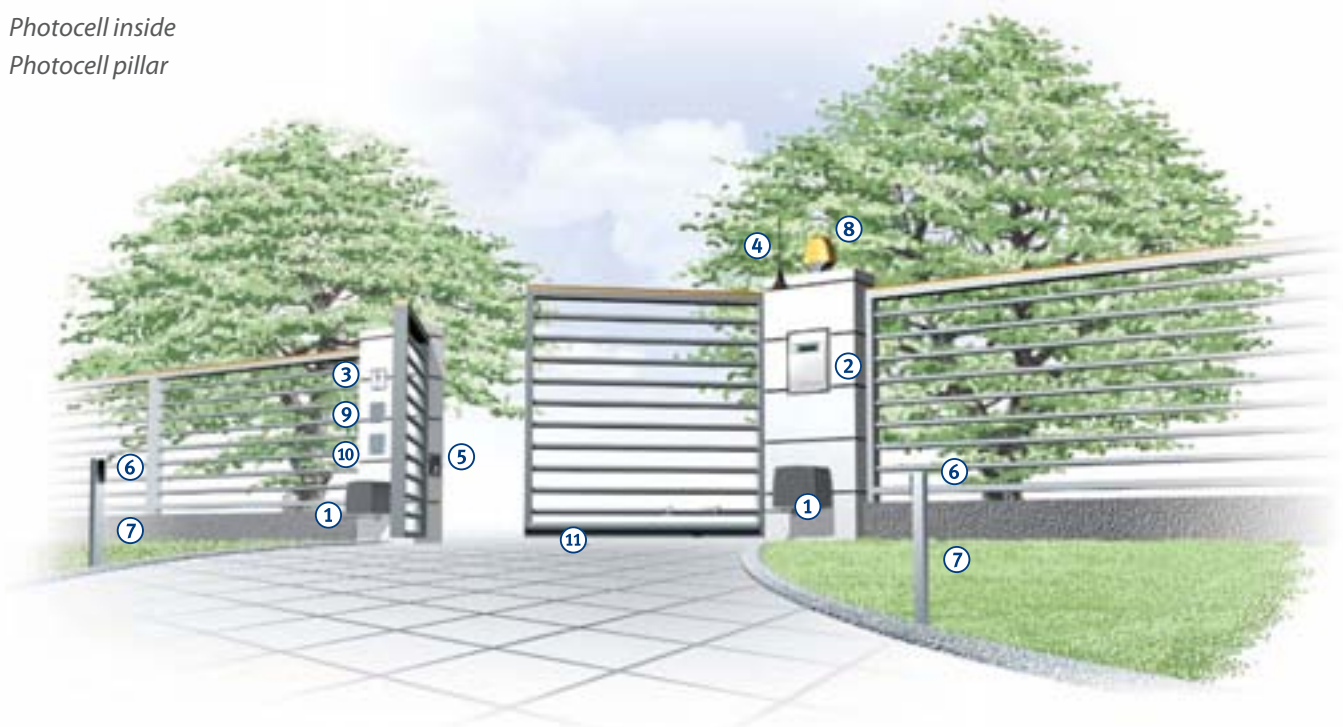
Product code

SPIN

62302



- | | |
|-----------------------|-------------------------|
| ① Swing gate operator | ⑧ Signal lamp |
| ② Control unit | ⑨ Main switch |
| ③ Key-, codepad | ⑩ Emergency stop button |
| ④ Antenna | ⑪ Safety sensing edge |
| ⑤ Photocell outside | |
| ⑥ Photocell inside | |
| ⑦ Photocell pillar | |





Swing gate automation

SWING 225, SWING 265



Product features SWING

- Very strong torque (up to 4500N)
- Force adjustment through bypass valves
- Closed hydraulic system no ventilation necessary - maintenance free
- Anodised, shapely aluminium housing
- Separately adjustable opening- and closing force through bypass valves
- For lowest temperatures (up to -25°C)
- Covered emergency release



Hydraulic pump



Piston rod with cover



The rear operator bracket

Type	Max. leaf weight	Max. leaf width	Motor power supply	Working stroke	Duty cycle	Blocking open / closed	Product code
SWING 225 AEB/29N	400kg	1,8m	230V	285mm	30%	■	11210210
SWING 225 NB/29N *	400kg	2,5m	230V	285mm	30%		11210220
SWING 265 AEB/29N	600kg	2,5m	230V	295mm	40%	■	11220080
SWING 265 AEB/44V1	600kg	3,0m	230V	445mm	40%	■	11220110
SWING 265 NB/29N *	600kg	4,0m	230V	295mm	40%		11220090
SWING 265 NB/44N *	600kg	6,0m	230V	445mm	40%		11220100

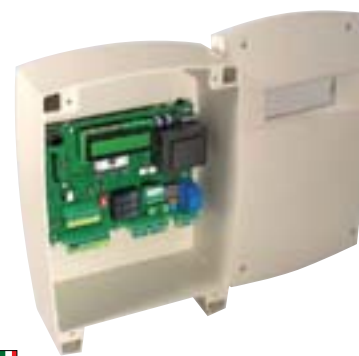


Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!

* Electric lock or motor lock necessary

General product features ST 51

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Connection slot for receiver
- Direct connection of 8,2 kΩ safety sensing edges (separate for inside/outside)
- Status display for safety- and impulse devices
- Self-monitoring of photocell
- Operating mode selectable (impulse, automatic, dead man)
- Free adjustable partial opening for pedestrians also with one leaf
- Partial opening can also be remote controlled (transmitter)



Control unit ST 51

ST 51		12111660
E-lock-/magnetic module	magnetic output for open and closed position	13810220
ST 51A	for traffic light operation, see page 79	12120350





SWING - KITS

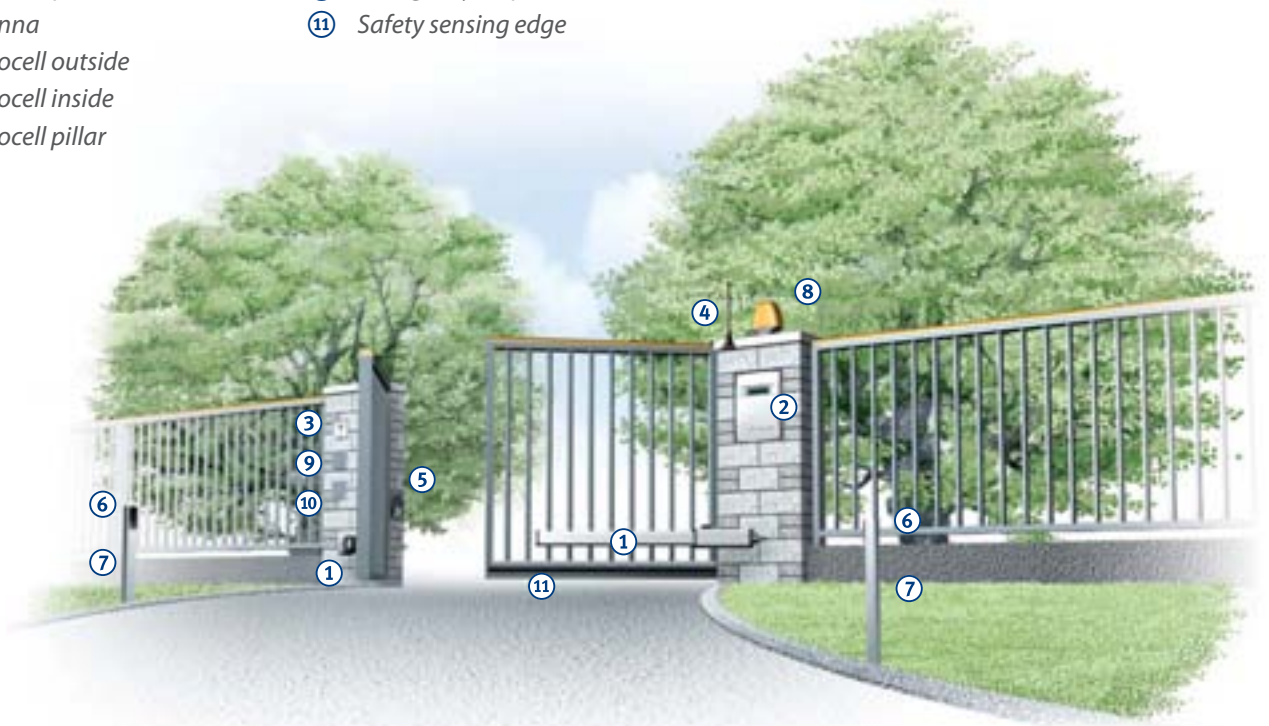
Kit includes:

- 2 operators incl. mounting equipment
- 1 control unit ST 51
- 1 radio receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41



Kits	DL	Swing gate operators	Product code
SWING 225	3,6m	2 x SWING 225AEB/29N	62403
SWING 265	5m	2 x SWING 265AEB/29N	62404

- | | |
|-----------------------|-------------------------|
| ① Swing gate operator | ⑧ Signal lamp |
| ② Control unit | ⑨ Main switch |
| ③ Key-, codepad | ⑩ Emergency stop button |
| ④ Antenna | ⑪ Safety sensing edge |
| ⑤ Photocell outside | |
| ⑥ Photocell inside | |
| ⑦ Photocell pillar | |





Underground swing gate automation

TURN 310 UF

Product features

TURN 310UF and TURN 310UF/E

- Integrated, mechanical limits for OPEN and CLOSE positions
- **Optional with stainless steel case (TURN 310 UF/E)**
- Emergency release on both sides with key
- Dismounting without removing the gate is possible
- Opening and closing force through control unit continuously adjustable
- Soft stop in combination with control unit ST 51



Clamp box



Optional bracket 180°



Operator unit
TURN 310UF

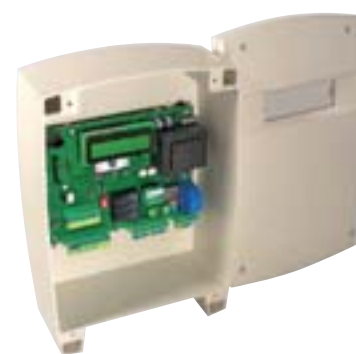
Type	Max. leaf weight	Max. leaf width	Motor power supply	Duty cycle	Opening angle	Product code
TURN 310UF	400kg	bis 3,0m*	230V	30%	110°	11230101
TURN 310UF/E stainless steel	400kg	bis 3,0m*	230V	30%	110°	11230111
Optional bracket	for TURN 310 UF opening angle 180° (external limit stops necessary)					14120220
Clampbox IP66	aluminium housing with metal cable bolting					11230130
Protection wax	for conservation of motor and housing					



Indication of the max. leaf width is for wind-permeable gates and for non ascending gates!
* from 2,5m leaf width electric lock is necessary.

General product features ST 51

- Large illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Connection slot for receiver
- Direct connection of 8,2 kΩ safety sensing edges (separate for inside/outside)
- Status display for safety- and impulse devices
- Self-monitoring of photocell
- Adjustable soft stop
- Operating mode selectable (impulse, automatic, dead man)
- Free adjustable partial opening for pedestrians also with one leaf
- Partial opening can also be remote controlled (transmitter)



Control unit ST 51

ST 51		12111660
E-lock-/magnetic module	magnetic output for open and closed position	13810220
ST 51A	for traffic light operation, see page 79	12120350



TURN 310 UF - KITS

Kit includes:

- 2 motors incl. mounting equipment
- 1 control unit ST 51
- 1 receiver RS 868, 2-channels
- 2 transmitters RS 868-4M, 4-channels
- 1 signal lamp LED
- 1 photocell LS 41

Kits

Product code

TURN 310 UF

zinc coated case

62503

TURN 310 UF/E

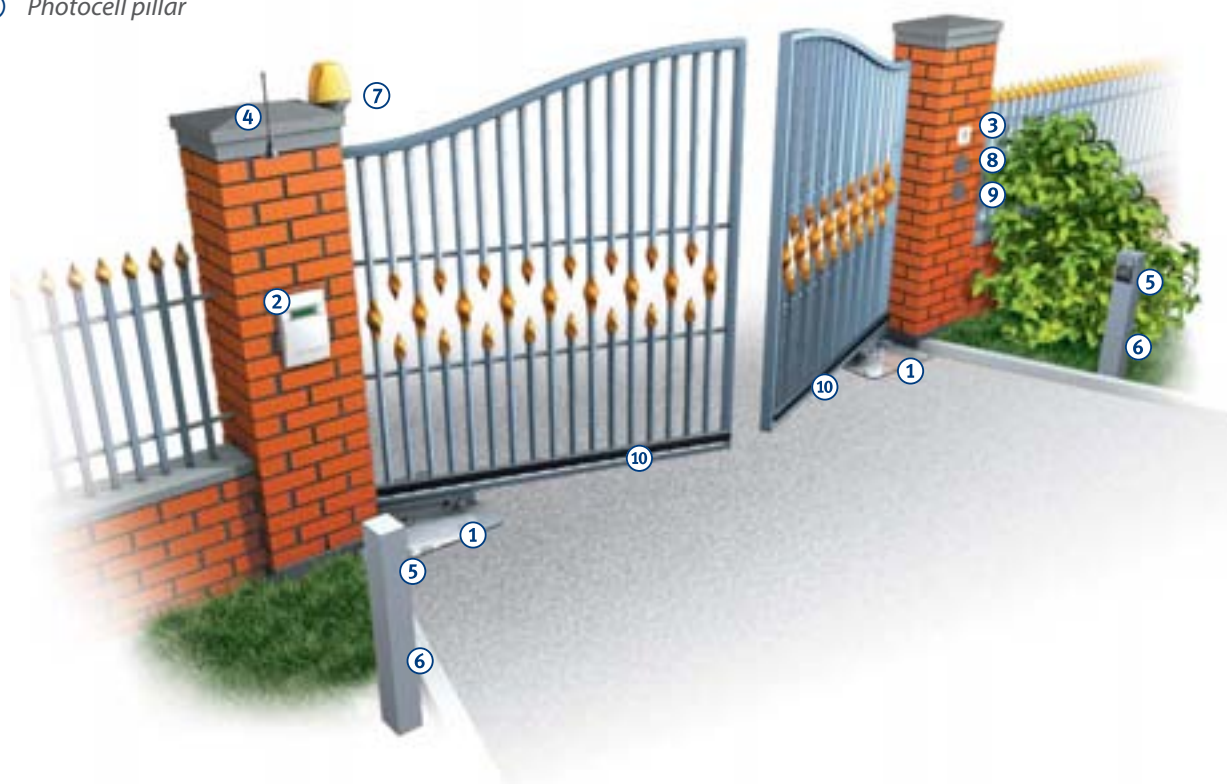
stainless steel case

62504



- ① Swing gate operator
- ② Control unit
- ③ Key-, Codepad
- ④ Antenna
- ⑤ Photocell
- ⑥ Photocell pillar

- ⑦ Signal lamp
- ⑧ Main switch
- ⑨ Emergency switch
- ⑩ Safety sensing edge





Swing gate automation

Technical data

Description	SLIM CLR	Turn 10	Turn 20	Turn UP1	Turn UP2
Max. leaf weight	150kg	350kg	350kg	350kg	350kg
Max. leaf width	2,5m	2,5m	3m	2,5m	3m
Duty cycle *	20/day	20/day	20/day	20/day	20/day
Motor power supply	12V	230V±10%	230V±10%	230V±10%	230V±10%
Travel speed	13mm/s	18,5mm/s	18,5mm/s	18,8mm/s	18,8mm/s
Max. shear force	1800N	3500 N	3500 N	2800 N	2800 N
Max. working stroke	330mm	303mm	402mm	300mm	400mm
Max. opening angle	120°	95°	110°	95°	110°
Blocking position OPEN	■	■	■	■	■
Blocking position CLOSED	■	■	■	■	■
Force adjustment through control unit	■	■	■	■	■
Built-in limit switches	■				
Emergency release	■	■	■	■	■

Description	Swing X3	Swing X3 LH	Swing X4 HD	Swing X4 LHD	Swing X5 LH	SPIN	Turn 310UF
Max. leaf weight	500kg	500kg	500kg	500kg	500 kg	200kg	400kg
Max. leaf width	3,0m	3,0m	4,0m	4,5m	5,0m	2,5m	3m
Duty cycle *	40%	40%	60%	60%	40%	20/Tag	30%
Motor power supply	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%
Travel speed	14,0mm/s	14,0mm/s	11mm/s	11mm/s	11mm/s	9°/s	6°/s
Max. shear force/torque	4000N	4000N	5000N	5000N	6500N	400Nm	300Nm
Max. working stroke	320mm	450mm	320mm	450mm	450mm		
Max. opening angle	100°	110°	100°	110°	110°	120°	110°- opt. 180°
Internal limit stops up to	200kg/3m	200kg/3m	200kg/3m	200kg/3m	200kg/3m		
Blocking position OPEN	■	■	■	■	■	■	■
Blocking position CLOSED	■	■	■	■	■	■	■
Force adjustment through control unit	■	■	■	■	■	■	■
Built-in limit switches						■	
Emergency release	■	■	■	■	■	■	■
Adjustable limit stops	■	■	■	■	■		■
Torque sensor	■	■	■	■	■		

Description	SWING 225AEB/29N	SWING 225NB/29N	SWING 265AEB/29N	SWING 265NB/29N	SWING 265AEB/44V1	SWING 265NB/44N
Max. leaf weight	400kg	400kg	600kg	600kg	600kg	600kg
Max. leaf width	1,8m	2,5m	2,5m	4,0m	3,0m	6,0m
Duty cycle *	S3 30%	S3 30%	S3 40%	S3 40%	S3 40%	S3 40%
Motor power supply	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%	230V±10%
Travel speed	10mm/s	10mm/s	10mm/s	10mm/s	20mm/s	10mm/s
Max. shear force	3000N	3000N	4500N	4500N	3000N	4500N
Max. working stroke	285mm	285mm	285mm	285mm	445mm	445mm
Max. opening angle	110°	110°	110°	110°	110°	110°
Blocking position OPEN	■		■		■	
Blocking position CLOSED	■		■		■	
Force regulation through bypass valves	■	■	■	■	■	■
Emergency release	■	■	■	■	■	■

* The duty cycle depends on the gate weight, please check also the technical sheets





Electric locks with 12V AC or 24V DC

24V DC for control units ST 51, ST 61

Electric lock

With internal cylinder



12V AC	13810020
24V DC	13810120

Electric lock

With internal and external cylinder, 12V AC



13810030

Electric lock

With rotary knob



12V AC	13810010
24V DC	13810110

Electric lock

For PHC (profile half cylinder) without cylinder



12V AC	13810090
24V DC	13810100

Electric lock

With cylinder and 3 keys



12V AC	13810080
24V DC	13810140

Electric lock

With pull wire



12V AC	13810070
24V DC	13810150

Alignment bracket

For electric lock, galvanised



13800040

Locking bolt with elbow joint

Enables closing of gate against gate with electric lock



14560200

Motorized locking bar

Only in combination with SPS control unit

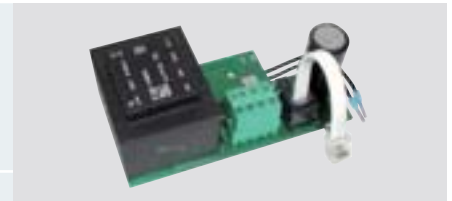


13830020

Electric lock/magnetic module 24V for ST 51 and ST 61

For 24V DC electric lock and 24V DC magnet	13810220
--	----------

For 12V DC electric lock and 24V DC magnet	13810230
--	----------





Swing gate automation Equipment

Magnetic clamp 24V

Only in combination with control unit ST 51, ST 61



GD 50 500N adhesive force

13820060

GD 70 1450N adhesive force

13820070

Anchor plate



For GD 50

13820030

For GD 70

13820040

Anchor plate (telescopic)



For GD 50

13820050

For GD 70

13820080

Travel limiter swing gate

With stainless steel-pipe, for OPEN and CLOSE, adjustable, bolt-on



14120140

Travel limiter swing gate stainless steel

Like left, but all parts made of stainless steel



14120270

mounting base plate galvanised

For welding; for operator attachment

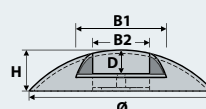
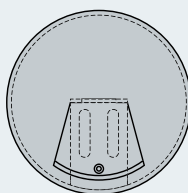


14120080

Floor limit stop for swing gates

To bolt-on/stainless steel

Ø	B1	B2	D	H	Unit(s)/package	Art. no.
162	80	50	21	36	8	14560430





Overview garage door automation		Page
TT 60/K4	■	56, 59
TT 120/K4	■	56, 59
TT 120/K6	■	57, 59
GTZ 55 Digital	■	58-59
GTZ 110 Digital	■	58-59



Garage door automation

TT 60, TT 120

Product features TT

- Operator for spring balanced garage doors, regardless whether overhead swing-up, swing-out and sectional garage doors.
- Ring core transformer
- Stainless steel chain
- 230V, 25W automatic light adjustable (0–5min.)
- Soft stop in both end positions
- Over 2,5m stroke movement with ceiling hanger
- Incl. self-learning radio receiver RS 868
- 4-channel-transmitter RS 868
- Incl. rail and mounting equipment

Programmable control unit

- Permanent self-adjusting force
- Self-monitoring operator management
- Automatic mode
- Adjustable partial opening
- Connection possibility of a lamp (max. 100W)



TT 60 K4 and TT 120 K4 - KITS

- Kit includes:
- 1 operator
 - 1 rail incl. mounting material
 - 1 radio receiver RS 868 1-channel
 - 1 radio transmitter RS 868-4M, 4-channels

Kits	Working stroke		Product code
TT 60 K4-KITS			
With 600N traction and shear force (up to 10 parking spaces)	2,5m	incl. split rail	63102
	3,5m	incl. split rail	63103
	4,5m	incl. split rail	63104
TT 120 K4-KITS			
With 1200N traction and shear force (up to 50 parking spaces)	2,5m	incl. split rail	63106
	3,5m	incl. split rail	63107
	4,5m	incl. split rail	63108

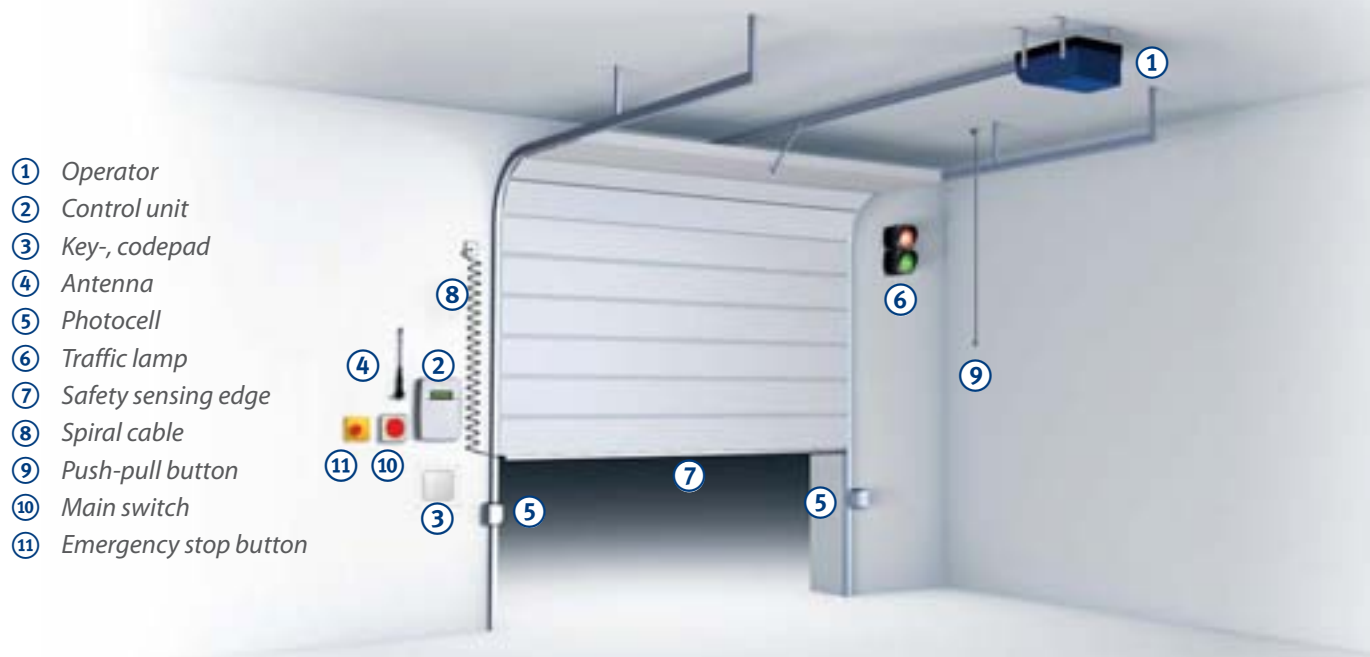




Product features

**underground garage door operator
for up to 50 parking spaces,
incl. traffic light control unit and 2 traffic lamps**

- 1200N traction and shear force
- Self locking gearing unit
- Soft stop in both limit positions
- Permanent self-adjusting force
- Automatic mode
- Automatic reversal on impact
- Pause time adjustable
- Traffic light control unit with direction detection incl. 6m, 8-pole connection cable (motor - traffic lamp control unit)
- Pre-warning in red
- Potential-free contact for garage lamp up to 100W, adjustable 0–5 min.
- Incl. rail and mounting material



- ① Operator
- ② Control unit
- ③ Key-, codepad
- ④ Antenna
- ⑤ Photocell
- ⑥ Traffic lamp
- ⑦ Safety sensing edge
- ⑧ Spiral cable
- ⑨ Push-pull button
- ⑩ Main switch
- ⑪ Emergency stop button

TT 120 K6 - KITS

- Kit includes:
- 1 operator
 - 1 rail incl. mounting material
 - 1 Traffic light control unit with direction detection
 - Incl. 6m, 8-pole connection cable (motor - traffic lamp control unit)

Kits	Working stroke		Product code
TT 120 K6-KITS			
With 1200N traction and shear force (up to 50 parking spaces)	2,5m	incl. split rail	63110
	3,5m	incl. split rail	63111
	4,5m	incl. split rail	63112



Garage door automation

GTZ 55 Digital, GTZ 110 Digital

Product features GTZ 55 Digital

- Operator for spring balanced garage doors, regardless whether overhead swing-up, swing-out and sectional garage doors
- With 550N traction and shear force (up to 3 parking spaces)
- Integrated garage LED lamp
- For low lintol heights (35mm)
- Soft start
- Soft stop (2-step at closing)
- Automatic reversal (=impact detection)
- Automatic mode
- Self-adjusting end positions
- Self-adjusting force (force curve) for highest safety
- Simple programming through 3 buttons and LC display
- Incl. self-adjusting radio receiver and 4-channels-transmitter RS 868
- Incl. rail and mounting equipment
- Cycle and maintenance counter



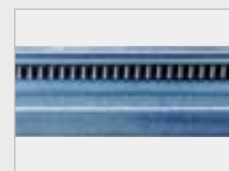
Additional product features GTZ 110 Digital

- With 1100N traction and shear force (up to zu 10 parking spaces)



GTZ 55 Digital and GTZ 110 Digital - KITS / with belt drive

- Kit includes:
- 1 operator
 - 1 rail incl. mounting material (split or unsplit)
 - 1 radio receiver RS 868 1-channel
 - 1 radio transmitter RS 868-4M, 4-channels



Operator with belt

Kit	Working stroke	Rail	Product code
GTZ 55-KITS	2,47m	unsplit	63202
with 550N traction and shear force (up to 3 parking spaces)	2,72m	unsplit	63204
	2,72m	split	63206
	3,48m	unsplit	63208
GTZ 110-KITS	2,47m	unsplit	63210
With 1100N traction and shear force (up to 10 parking spaces)	2,72m	unsplit	63212
	2,72m	split	63214
	3,48m	unsplit	63216





Equipment for GTZ Digital

LED extension



12111920

Bowden-wire kit

3m cable feed



14130310

Photocell LS55/3

2-wire technology, transmitter/receiver, incl. connection cable, range: 6m



Photocell LS 55 13510310

Mounting bracket 13510320

Safety contact edge module for 8,2kΩ safety contact edges



12111940

Signal lamp module

Potential free contact (N.O.) for signal lamp



Contact load max. 230V, 60W

12111950

Equipment for TT

Special bracket curved arm for TT

For vertical spring balanced doors/gates



14130300

Swing door bracket for TT

For 2-leaves, swing garage doors opening to the outside up to max. 1,4m leaf width



14130010

Mounting bracket

For rail TT60 and TT120 series starting from 3,5m working stroke



14130320

Equipment for TT and GTZ Digital

Emergency release for outside

Emergency release cylinder, for garage door



14130340

Additional lock

Spring latch kit



14130270





Overview automatic barriers

Page

PASS 838	up to 6m boom	62–64
PASS 882	up to 9m boom	65
Equipment for barriers		66–68
Lifting chain barrier LIFT X2		70–71
Electromechanical bollard VSZ 2, VSZ 3		72
Electrohydraulic bollard VSZ 4		73





Product features PASS 838

- Standard colour red (similar to RAL 3000)
- Optional any RAL colour available
- Optional with stainless steel case (galvanised)
- Sophisticated design
- Fast opening speed
- For heavy duty use (100% ED)
- Self-learning end positions (without limit switches)
- ARS- Automatic Reversal System
- Integrated control board
- Forced closing (with PASS 838V)

Product features control board ST 80

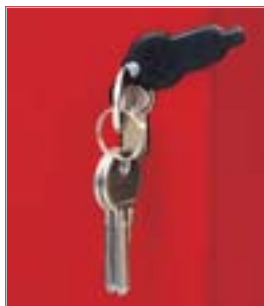
- Operation mode selectable (impulse, automatic, dead man)
- Adjustable soft stop
- Direct connection of 8,2 kΩ safety sensing edge for boom bottom edge
- Status display for safety and button inputs
- Optional: external status display of the boom (e.g. doorman)
- Slot locations for radio receiver and inductive loop detector ISD 6
- Output for magnetic clamp of the boom



Durable thanks
to multi-layer painting



Door lockable with
euro standard cylinder



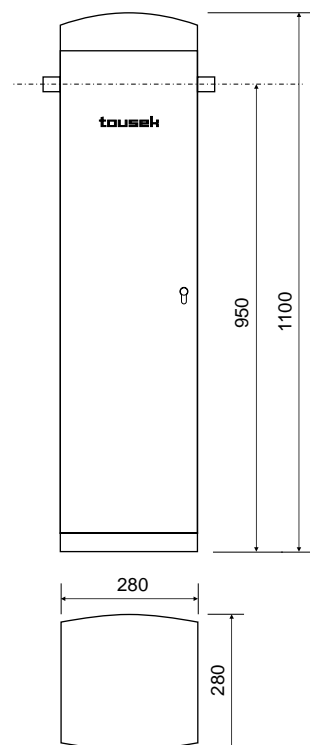
Emergency release
from outside



Vandalism proof gearing
with forced closing (838V)



Stable and robust
special gearing





Barrier operators with opening time 1,5s ** - **only for vehicle traffic!**

vandalism-proof gearing with self-locking function

Type	Max. closing length	Power supply	Duty cycle	Max. cycles/day *	Integrated control unit ST 80	Product code
PASS 838V	3m	230V	100%	2000		11530320
PASS 838V-ST	3m	230V	100%	2000	■	11530360

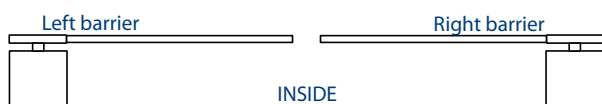
Barrier operators with opening time 7s **

PASS 838L3	3m	230V	100%	1000		11530290
PASS 838L3-ST	3m	230V	100%	1000	■	11530330
PASS 838L4	4,5m	230V	100%	1000		11530300
PASS 838L4-ST	4,5m	230V	100%	1000	■	11530340
PASS 838L6	6m	230V	100%	500		11530310
PASS 838L6-ST	6m	230V	100%	500	■	11530350



* Prerequisite: regular maintenance according to our specifications (depending on intensity of operation 1 to 4 times/year)

** Calculated speed without soft stop



When ordering barrier operators please specify the desired installation position by adding to the article number L for left and R for right position !
E.g.: PASS 838V as right barrier: 11530320R

Mounting base plate

Mounting base plate 838	14140160
-------------------------	----------





Barriers

PASS 838



Booms

Aluminium, white coated, with red reflective stripes

for PASS 838 and 838L3	3m with rubber profile	14160300
for PASS 838L4	4,5m with rubber profile	14160310
for PASS 838L6	6m round boom Ø 84mm	14160320



Booms with LED's

Aluminium, white coated, 3 LED's on both sides and red reflective stripes

for PASS 838 and 838L3	3m with rubber profile	14160360
for PASS 838L4	4,5m with rubber profile	14160370
for PASS 838L6	6m round boom Ø 84mm	14160380

Control units for PASS 838 double barrier

For a double barrier a Master- and a Slave control board are necessary (for barrier 838 without integrated control unit)

ST 80V	with forced closing function	Master: 12111580 Slave: 12111560
ST 80		Master: 12111570 Slave: 12111550

Control units for PASS 838 with traffic light

One-way-or-way traffic control, connection for 2 Red/Green traffic lights 230V, 60W (for barrier 838 without integrated control unit)

ST 80VA for STA 11	motor control unit with forced closing function	12111610
ST 80A for STA 11	motor control unit	12111620
Traffic control board STA 11	for combination with motor control ST 80 (V)A, built into plastic box, slot for radio receiver and I-loop detector ISD 6, not in barrier housing	12120370



Product features PASS 882

- Standard colour red, similar to RAL 3020, white lid
- Aluminium housing
- Robust design , weight: 180kg
- Fast opening speed: 12s
- For heavy duty use (100% duty cycles)
- Direct drive of the booms
- Low maintenance, sinvce no balanced spring
- Massive 2 stage gear unit with 2.000Nm
- Integrated control board

Product features control board ST 800

- Operation mode selectable (impulse, automatic, dead man)
- Adjustable soft stop (distance and speed)
- Adjustable speed (separately for OPEN and CLOSED) controlled by a frequency transformer
- Direct connection of 8,2 kΩ safety sensing edge for boom bottom edge
- Status display for safety and switch inputs
- Optional: external status display of the boom (e.g. doorman)
- Slot for radio receiver
- Output for magnetic clamp of the boom
- 2 inputs for induction loops



Barriers with closing width up to 8,95 m (boom length: 9m)

incl. tension wire

Type	Connection voltage	Max. cycles/day *	Integrated control board ST 800	Mounting side	Product code
PASS 882-ST	230V	500	■	left right	11530390 11530400
PASS 882 Master NEW	for double barrier (Slave motor necessary)			left right	11530410 11530430
PASS 882 Slave NEW	for double barrier (Master motor necessary)			left right	11530420 11530440



* Prerequisite regular maintenance according to our specifications (depending on the intensity of operation 1 to 4 times a year)

Boom

Aluminium, white coated , with red reflective strips

for PASS 882	Boom length: 9m	14160350
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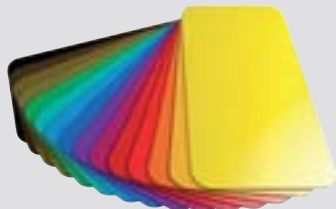
No stock item - delivery time approx. 4 weeks





Barriers Equipment

RAL Colour on request



838

23400120

Stainless steel housing



838

Painted in red
35150070

Plastic box



838

For add. equipment for
mounting at the inside of
barrier door,
WxHxD:: 200 x 150 x 75mm

12140260

Additional module for boom status display



838

882

Pluggable into control board
series ST 80 and ST 800,
potential free signal contacts,
max. 24V AC/DC, 10W

21110420

Barrier housing signal lamp RED



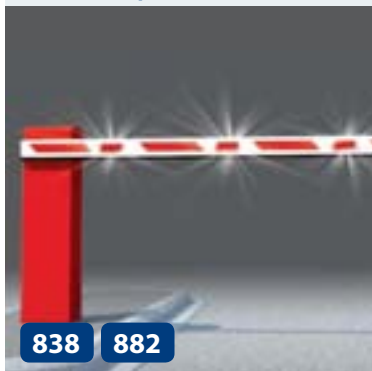
838

Lamps with 3 strong LEDs incl.
connection cable, 24V DC,
for mounting on barrier
housing

2 units per barrier necessary

13710180

Boom lamp kit



838

882

6 units of lamps with 3 strong
LEDs, incl. 15m cable, for
mounting onto boom,
programmable
(blinks or illuminates)

For round boom
13710250

For rectangular boom
13710190

Traffic light pillar short



838

Height 1000mm, galvanised,
for mounting onto barrier
housing

13700190

Vehicle impact protection



838

882

For barriers and
impulse emitter pillars,
WxH:: 480 x 350, Ø 60mm

special sizes on request

36540030



Tip rest for PASS 838



With boom guide,
height adjustable

Tip rest

14150160

Mounting base plate

14150170

838 882

Pendulum arm



White painted, height adjustable,
with rubber bumper

For PASS 838-L3, -L4

14150250

For PASS 838-L6

14150240

For PASS 882

14150410

838 882

Articulated boom bracket



Aluminium, white coated,
incl. ready-made

For PASS 838L3 and L4

14150220

838

Magnet for boom



For fixing in closed position in
combination with tip rest.

Kit with: console (natur. aluminium), magnet GD 70 (1.450N adh. force) and anchor plate, without installation

For boom 882

14150420

Or rectangular boom 838

14150380

For round boom 838

14150390

838 882

Barrier boom grid

For PASS 838, aluminium naturally anodised / red powder-coated.
Height 750mm, distance between bars 150mm

Please consider the weight compensation and the use of tip rest or pendulum arm



838L 882

For PASS 838L

2m: 14150320

3m: 14150330

Impulse emitter column V03

Standard red painted steel plate housing (optional in any RAL colour available), lockable with standard cylinder



838 882

Column / mounting base plate

Red column: 13400200

Mounting base plate: 13300170



Barriers Equipment

Prices in Euro excl. VAT

Maintenance package



Necessary for maintenance after 200.000 cycles, consisting of: compensating spring, chain and damping arm.

Maintenance package WP 838 - for PASS 838 and PASS 838L3

11530370

Maintenance package WP 838L4 and L6 - for PASS 838L4 and PASS 838L6

11530380

Pre-installation (incl. prewiring)



In order to save installation and assembly time on site you can ask our workshop to make the barrier ready for operation.

E.g. 1 photocell or 1 signal lamp or 1 barrier signal lamp or 1 traffic light pillar incl. light or 1 key switch or 1 induction loop or 1 large housing.

For installation of a boom lamp kit two units are necessary!

Mounting/installation

14150190

Main switch, 2 poles



For mounting into the control box ST 80, max. contact load 230V / 4kW

13310050

Induction loop detector ISD 6 **NEW**



2-channels
Pluggable into ST 80

838

13430140

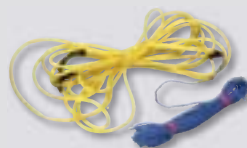
PTFE-wire



To lay for subsequent cutting.
1 bunch = 70m,
1,0mm², Tmax 180°C

13400270

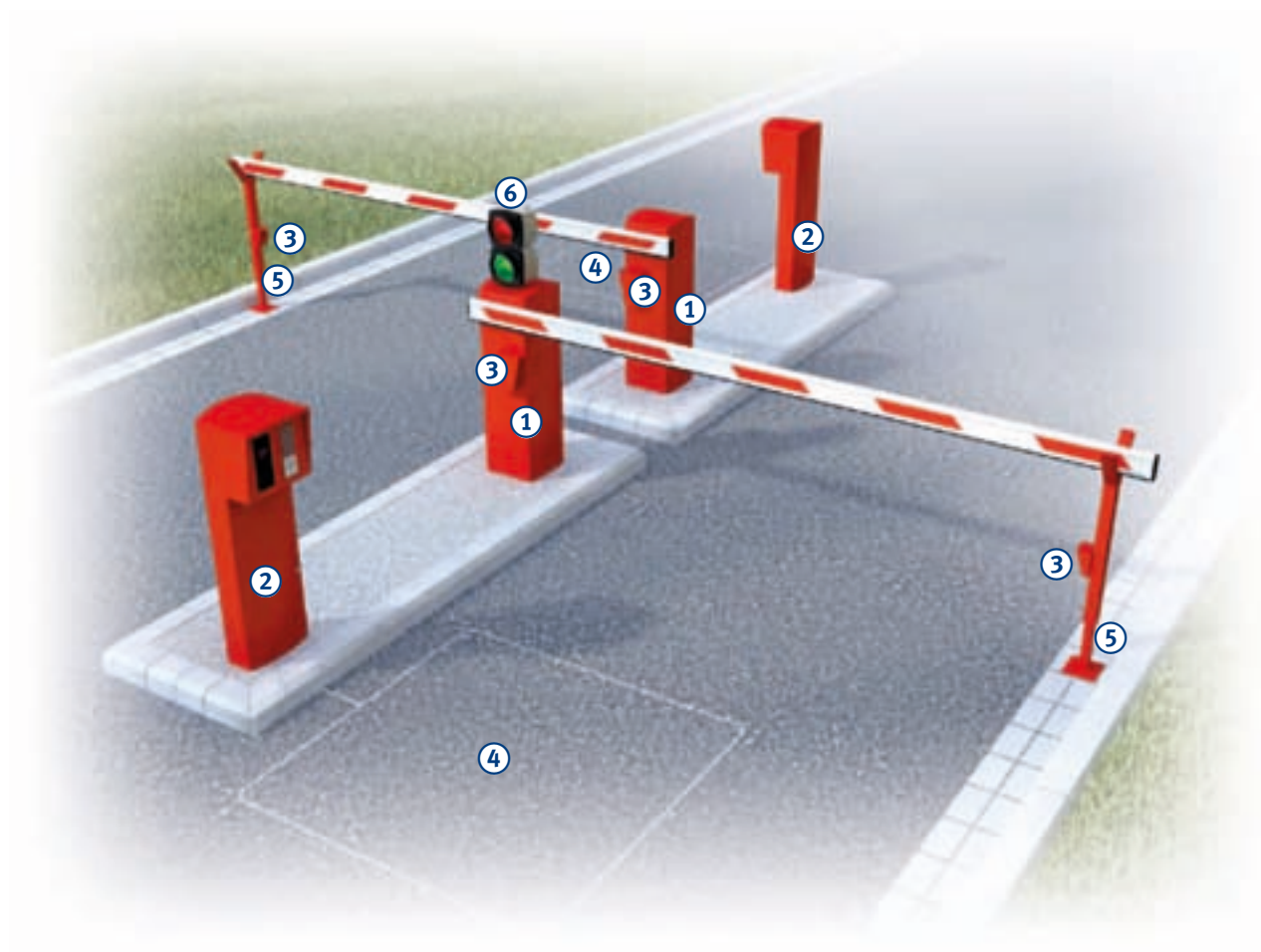
Ready made induction loop



To lay before applying the final layer of pavement, including 10m of twisted cable.

The price/cm refers to the length of the induction loop

13400220



- ① Barrier housing with integrated control unit
- ② Column in proper design for coin tester, interphone, code pad etc.
- ③ Photocell
- ④ Induction loop
- ⑤ Tip rest
- ⑥ Traffic light



Lifting chain barrier

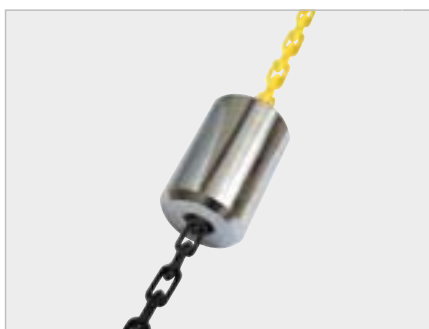
LIFT X2

Product features

- 12V technology
- Motor and counter pillar made of powder-coated aluminium
- Simple mounting, already pre-installed
- 20 cycles/day
- Pillar dimensions: 120 x 120 x 1000mm
- Max. closing width 10m
- Protection class IP 54



Control unit incl. receiver



Nylon chain with counter weight

Type

Product code

Lifting chain barrier LIFT X2

LIFT X2		11590150
LIFT X2 -KIT	<ul style="list-style-type: none">• 1 motor pillar• 1 radio receiver RS 868 1-channel• 1 radio transmitter 2-channels RS 868-2M• 1 antenna RS 868	S15000

Counter pillar for LIFT X2

Counter pillar	same design as LIFT X2	11590170
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Use without counter pillar



Use with counter pillar

Mounting plate

Stainless steel, bolt-on for LIFT X2,
200 x 200mm



14150300

Mounting base plate

For sealing of Lift X2,
120 x 120mm



14150310

Nylon chain

6mm, black/yellow,
incl. counter weight



6m	11590110
10m	11590120

Stainless steel chain

Incl. counter weight



6m	11590130
10m	11590140



Bollard VSZ 2, VSZ 3

Product features

- Electromechanical bollard 24V DC
- Integrated lighting with 12 strong and sequential LEDs
- Steel with black, cataphoretic coating
- Optional cylindrical case made of stainless steel
- Protection class IP 54
- Plug connection between control unit and bollard (Plug & Play)

Bollard VSZ 2 stainless steel



Bollard VSZ 2

incl. foundation box VSZ 2/500: Ø 330 x 1008mm, VSZ 2/800: Ø 330 x 1358mm; round base plate

Type	Diameter	Working stroke	Duty cycle	Impact resistance	Breaking resistance	Raising/ lowering time		Product code
VSZ 2/500	200mm	500mm	1.200/day	11.000J	180.000J	3s/4s	Black	11590190
							Stainless steel	11590200
VSZ 2/800	200mm	800mm	1.000/day	11.000J	180.000J	5s/7s	Black	11590210
							Stainless steel	11590220

Bollard VSZ 3

incl. foundation box VSZ 3/500: 360 x 360 x 1008mm, VSZ 3/800: 360 x 360 x 1358mm; square base plate

VSZ 3/500	254mm	500mm	900/day	18.000J	240.000J	3s/4s	Black	11590230
							Stainless steel	11590240
VSZ 3/800	254mm	800mm	600/day	18.000J	240.000J	5s/7s	Black	11590250
							Stainless steel	11590260

Control boards for bollards VSZ

230Va.c./50Hz, IP 68

For VSZ 2/500		For 1 bollard	11590300
		For 2 bollards	11590310
		For 4 bollards	11590320
For VSZ 2/800 and VSZ 3/500, 3/800		For 1 bollard	11590330
		For 2 bollards	11590340
		For 4 bollards	11590350
Connection cable bollard/control unit	Plug & Play, with fully-fitted plug	5m	11590400
		10m	11590410
		25m	11590420

Equipment

Heating system		11590430
Acoustic warning signal		11590440
Receiver with 11 pole plug-in base RS 868-SO230V	power supply 230V	13280040

No stock item - delivery time: approx. 4 weeks



NEW

Product features

- Electrohydraulic bollard 230V AC
- Integrated lighting with blue sequential LEDs
- Steel with black, cataphoretic coating
- Emergency release on the top of the bollard
- Integrated inductive limit switches for the „open“ position
- Optional cylindrical case made of stainless steel
- Protection class IP 54

Product features control unit ST 40

- For max. 4 bollards VSZ 4 in synchronous operation
- One-way or two-way traffic control
- Connection for 2 red/green control lights 230V, 60W
- Programming through a large, illuminated LC-Display (2x16 characters)
- Clear text menu programmable through four buttons
- Permanent red selectable
- Clearance time 1–60s selectable
- Green phase 5–120s selectable
- Storing of a drive-through requirement
- Status display for safety and impulse connections
- Automatic mode
- Slot for radio receiver STN for opening signal from „outside“
- Slot for I-loop detector ISD 6 for opening signal from „inside“



Bollard VSZ 4

incl. foundation box VSZ 4/500: Ø 330 x 1008mm, round base plate

Type	Diameter	Working stroke	Duty cycle	Impact resistance	Breaking resistance	Raising/ lowering time	Type	Product code
VSZ 4/500	200mm	500mm	750/day	11.000J	180.000J	5s	black	11590470
							stainless steel	11590480

Bollard VSZ 4 EV

like VSZ 4, with an additional electrovalve, that ensures an automatic lowering in case of power failure

VSZ 4/500 EV	200mm	500mm	750/day	11.000J	180.000J	5s	black stainless steel	11590490 11590500
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Type

Product code

Control unit in control cabinet (for 4 units VSZ 4 in parallel use)

ST 40–ST11	prewired incl. main switch dimension: 380 x 300 x 150mm	12120400
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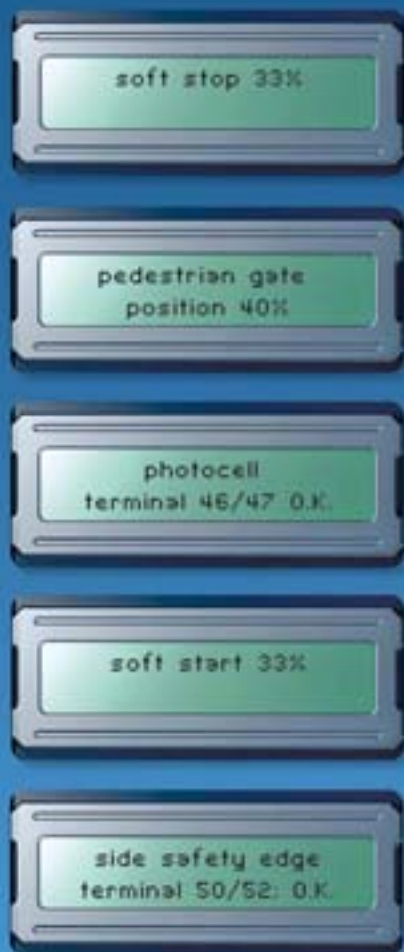
Equipment

ISD 6	2-channel I-loop detector	13430140
RS 868-STN1	1-channel radio receiver	13280060
Connection cable bollard/central unit	Plug & Play, with fully-fitted plug	10m 11590510
		25m 11590520
Signal light	2-chamber, red/green	13710090



No stock item - delivery time: approx. 4 weeks





Overview of operator control units	Page
tousek Interface	76
Swing gate control units	77
Traffic light control units	78



tousek Interface

Programming via PC/laptop



Product features

- Programming via PC
- Event Viewer of the last 1000 cycles (approx.)
- Saving of preset menu-parameters
- Uploading of preset menus into the control board
- History of all the changes/events in the menu
- Cycle counter
- Software updates via Internet
- Event memory sent by e-mail (internet access required)
- Selectable languages: English, German, Spanish, French, Italian, Czech, Polish

Compatible with:

- Automation series PULL TSA, PULL T, TPS 20 (N, PRO), TPS 35 PRO and TPS 60 PRO
- Barrier series PASS 838 / ST 80 and PASS 882 / ST800
- Control boards ST 12/5, ST 51 and ST 61

Programming via PC



You can easily program the control system by scrolling and clicking in the Tousek menus and then save your configurations under any desired name.

Softwareupdate



Download the current drive software from www.tousek.com and transfer it to the control board.

Event log



The last 1000 cycles (approx.) are saved with indication of day and time. Sortable by different events.

Loading parameters



Load your settings onto the control boards or readout parameters.



tousek Interface

Including 1,5m USB-cable and software on USB-Stick
System requirements: Windows XP® or Windows 7® (32/64-bit), from INTEL Atom 1.6 GHz

Type

Product code

tousek Interface

12111450



Operator control units with display

Microprocessor control units



Product features

- Large illuminated LC-Display (2x16 characters)
- Housing with vision panel
- Full text menu programmable through four buttons
- Status display for safety and impulse inputs
- Connection slot for receiver
- Direct connection of 8,2 kOhm safety sensing edges (separated inside/outside)
- Electronic force adjustment
- Electric lock output (with ST 51 and ST 61 in combination with module)
- Magnet output (only for ST 51 and ST 61 in combination with module)
- Self-monitoring of photocell
- Operating mode selectable (impulse, automatic, dead man)
- Adjustable partial opening for pedestrians (also with one leaf)
- Partial opening also remote controlled
- The following languages are selectable: English, German, French, Spanish, Czech, Polish, Italian.



Typ

Product code

For operators SLIM CLR

Additionally with soft start and soft stop

ST 12/5		12111730
Battery DA2.2LP12V	up to max. 15 cycles/load	S35118
Additional module courtyard lamp/control lamp	for 230V lamp connection, max. 100W	21110620
Additional module for gate status	potential free signal contacts, max. 24V, 10W	21110630

For operators TURN, TURN UP, TURN 310UF, SWING, TIP, FOLD

Additionally with soft stop, reversing stroke

ST 51		12111660
E-lock-/magnetic module	for 24V DC electric lock, magnet output for open and closed position	13810220

For operators of SWING X series

Additionally with soft stop, reversing stroke and speed sensor input

ST 61		12111670
E-lock-/magnetic module	for 24V DC electric lock, magnet output for open and closed position	13810220
Additional module courtyard lamp/control lamp	for 230V lamp connection, max. 100W	21110490
Additional module for gate status	potential free signal contacts, max. 24V, 10W	21110420





Traffic light control units

Microprocessor control units



General product features

- Traffic light control board STA 11 in combination with control units ST 51A and ST 61A
- One way traffic or two way traffic regulation
- Connection for 2 Red/Green traffic lights 230V, 60W
- Programming via large illuminated LC-Display (2x16 characters)
- English full text menu programmable through four buttons
- Constant RED selectable
- Exit time 1–60s selectable
- Green phase 5–120s selectable
- Storing a drive-through request
- Status display for safety and impulse inputs
- Automatic operating mode
- Self-monitoring of photocell
- Electronic force regulation
- Connection slot for radio receiver STN for opening impulse from „outside“
- Connection slot for I-loop detector ISD 6 for opening impulse from „inside“
- Direct connection of 8,2 kΩ safety contact edges
- Electric lock-/adhesive magnet connection via optional module
- Additional module for gate status display or courtyard/control lamp via optional module for ST 61A
- The following languages are selectable: English, German, French, Spanish, Czech, Polish, Italian.



Type

Product code

Traffic light control unit inside control cabinet, combined

For operators TURN, TURN UP, TURN 310UF, SWING, FOLD and other brands

ST 51A–STA11*	pre-wired incl. main switch dimensions: 380 x 300 x 150mm	12120380
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* Note: time controlled or for open position (green phase) external limit switches necessary.

For SWING X operators

ST 61A–STA11	pre-wired incl. main switch dimensions: 380 x 300 x 150mm	12120300
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Traffic light control in plastic housing

Operator- and traffic light control board in separated boxes
Box dimension (BxHxT): 210 x 310 x 125mm

ST 51A for STA 11	operator control unit	12120350
ST 61A for STA 11	operator control unit	12120340
STA 11	traffic light board	12120370

Equipment

ISD6 NEW	2-channel I-loop detector	13430140
RS 868-STN1	1-channel radio receiver	13280060
Traffic light	2-chamber, Red/Green	13710090
E-lock-/magnet module	For 24V DC electric lock, magnet output for open and closed position	13810220



Table of content control units

Microprocessor controls



Description	ST 12/5	ST 51	ST 61
Power supply	230V AC \pm 10%	230V AC \pm 10%	230V AC \pm 10%
Motor output	2 x 12V DC, 60W	2x230V, 500W	2x230V, 500W
Illuminated LC-Display	■	■	■
Operating mode	automatic/impulse/dead man	automatic/impulse/dead man	automatic/impulse/dead man
Courtyard lamp output	via module		via module
Control lamp output	via module		via module
Signal lamp output	230V AC, 40W	230V AC, 40 W	230V AC, 40W
Low voltage output	12V DC, 0,3A	24V AC, 0,3A	24V AC, 0,3A
Electric lock output	12V DC, 15W	via module (12 or 24V DC)	via module (12 or 24V DC)
Magnetic clamp output		via module (24V DC)	via module (24V DC)
Gate status display	via module		via module
Sensor management			■
Limit switch management	■		
Pause time	5-255s	5-255s	5-255s
Opening delay motor 2	0-25s	0-25s	0-25s
Closing delay motor 1	0-25s	0-25s	0-25s
Pedestrian/Partial opening	■	■	■
Reversing stroke, for relief of E-lock		■	■
Separate photocell inputs outside/inside	■	■	■
8,2K Ω resistance evaluation, 2-channels	■	■	■
Increased drive force		■	■
Increased pressure		■	■



Notes





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Digital radio system TAK	86
Transmitter and receiver BT 40	87
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Radio system

RS 433 and RS 868



Product features

- Frequency: 433 MHz or 868 MHz
- Self-adjusting technology
- Safely through Rolling Code: everytime you push the button a new code is sent, each transmitter is unique
- In combination with antenna up to 200m range
- Up to 85 different transmitters can be programmed into radio receiver



scale 1:1

Transmitter RS868-2M, -4M

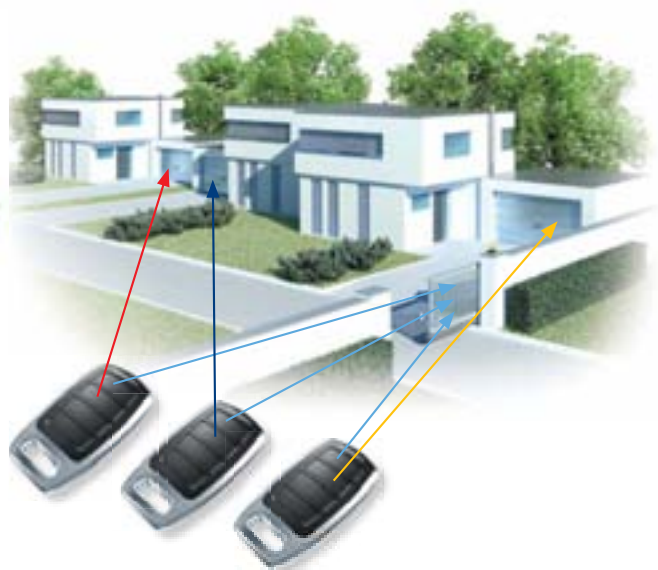
Example of use 1

- Button 1:** opening of sliding gate
Button 2: opening of garage door
Button 3: setting the light on
Button 4: deactivation of alarm



Example of use 2

- Button 1:** opens the common entrance gate for all owners
Button 2: opens separately the own garage door **A, B, C**





Transmitter RS 868-2M, -4M

Suitable for radio receiver RS 868

Type

Product code

RS 868-2M	NEW	2-channels	13180070
RS 868-4M	NEW	4-channels	13180080



433MHz

868MHz

Transmitter RS 433-B and RS 868-B

Suitable for radio receiver RS433 and RS 868, incl. wall holder

RS 433-TXR-2B	2-channels	13160200
RS 433-TXR-4B	4-channels	13160210
RS 868-TXR-2B	2-channels	13180050
RS 868-TXR-4B	4-channels	13180060



433MHz

868MHz

Transmitter RS 433 and RS 868

RS 433-TXR-1	1-channel	13160010
RS 433-TXR-2	2-channels	13160020
RS 433-TXR-4	4-channels	13160030
RS 433-TXR-12	with Display 12-channels	13160170
RS 868-TXR-1	1-channel	13180010
RS 868-TXR-2	2-channels	13180020
RS 868-TXR-4	4-channels	13180030

WIEGAND transmitter RS 433

Suitable for receiver RS 433 WIEGAND, with blue pad

RS 433-TXR-1W	1-channel	13160130
RS 433-TXR-2W	2-channels	13160140
RS 433-TXR-4W	4-channels	13160150
Wall mounting	incl. clip	13150070



Code pad TORCODY RS 433 and RS 868

Suitable for receiver RS 433 and RS 868, 4-channels (3 x with code, 1x without code)

TORCODY 433	Black	13170030
	White	13170050
TORCODY 868	Black	13170080
	White	13170090



Wall transmitter WT RS 433, RS 868 and WTN RS 868

WT 433	suitable for RS 433	2-channels	13170010
		4-channels	13170020
WTN 868	suitable for RS 868	1-channel	13170120
		2-channels	13170130



Replacement batteries

Battery 3V CR2032	for RS 868-M, RS 433(868) TXR-B, RS 868 TXR, RS 433 TXR12	13140040
Battery 12V L1028	for RS 433 TXR, RS 433 TXR-W, WT 433	13140010



Radio receiver

RS 433 and RS 868

NEW

Each transmitter button can be freely assigned to any channel on the radio receiver.



Rolling Code radio receiver RS 433 and RS 868 pluggable

For tousek control units, 12V DC, contact load 24V/10mA, IP 00

Type		
RS 433-STN 1		1-channel
RS 433-STN 2.2	2nd channel on terminal, max. 48V, 28W	2-channels
RS 868-STN 1		1-channel
RS 868-STN 2.2	2nd channel on terminal, max. 48V, 28W	2-channels
RS 868-STN 2.2		2-channels

Rolling Code radio receiver RS 433 and RS 868 in housing IP 23

With connection clamps, power supply 12 or 24V AC/DC, contact load 24V/10mA

RS 433-K		1-channel	13270040
RS 433-K2.2		2-channels	13270460
RS 868-K		1-channel	13280010
RS 868-K2.2		2-channels	13280260

Rolling Code radio receiver RS 433 and RS 868 with 11-pole socket

1-channel, power supply 24V AC/DC or 230V AC, contact load 230V/60W

RS 433-SO24V		24V	13270030
RS 433-SO230V		230V	13270020
RS 868-SO24V		24V	13280030
RS 868-SO230V		230V	13280040

Rolling Code radio receiver RS 433 and RS 868 in housing IP 54

With connection clamps, power supply 12/24V AC/DC or 230V AC, contact load 48V/28W

RS 433-230V1	230V	1-channel	13270180
RS 433-12/24V4	12/24V	4-channels	13270150
RS 433-230V4	230V	4-channels	13270120
RS 868-230V1	230V	1-channel	13280080
RS 868-230V4	230V	4-channels	13280050
Channel extension			13270250

Rolling Code radio receiver WIEGAND RS 433 in housing IP 54

1-channel, with connection clamps, 433MHz, power supply 230V AC, contact load 48V/28W,

With a terminal for access control device for WIEGAND system

RCW 433	with connection clamps in housing IP54	1-channel	13270230
---------	--	-----------	----------



RS 868-KSD

Receiver RS 868, 1-channel, in power socket housing, Integrated antenna, potential free contact, over 1m long cable, max. contact load 1A 48V, up to max. 61 transmitter channels

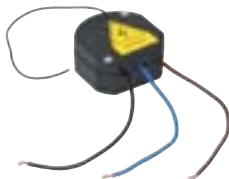
Type	Product code
RS 868-KSD	13280140



Signal amplifier RS 433

433MHz, for longer range, combined receiver-transmitter, 230V, IP 20

Signal amplifier	Product code
	13930060



Radio light switch RRL 433/868

230V, breaking capacity max. 300W induktiv / 1000W ohmsch, Ø 53mm, height 25mm (conventional socket)

RRL 433	433 MHz, with switched phase	13270240
RRL 868	NEW 868 MHz, with potential free contact	13270470



Programming device PROG RS 433/868

For deleting single transmitter codes from the receiver without transmitter

PROG RS 433/868	Product code
	13170040



Rod antennas for radio receiver RS 433 and RS 868

Range in combination with antenna FK 433 or FK 868 up to 200m, incl. 4m coax. cable and stainless steel bracket

FK 433	433MHz	13250130
FK 868	868MHz	13250140



Memory module

For extension of the max. amount of transmitters (for 341 transmitter channels)

Memory module	Product code
	13270110



Radio system

RS 868 TAK

Product features

- Up to 2000 transmitters manageable per receiver
- Frequency: 868 MHz, Rolling Code: everytime you push the button a new code is sent, each transmitter is unique.
- With FK 868 up to 200m range
- **Easy:** you can add new transmitters through TAK-Software, without being on site with the receiver.
- **Safe:** an end user has lost his transmitter, with the TAK software you can program a new one.
It can then be sent by mail and can be used immediately.
First time you press the button on the new transmitter the lost one will be deleted.
- **Intelligent:** deactivate or activate other transmitters simply with another transmitter.
- **Flexible:** with the digital display you can manage the installation without being on site, e.g. the button assignment of a transmitter.
For example from gate 1/gate 2 to gate 1/ gate 4.



Transmitter RS 868-TAK

Colour anthracite, incl. wall mounting
**not compatible with standard radio system
of RS 868 series !**



1-channel	13190030
2-channels	13190010
4-channels	13190020

Radio receiver Rolling Code RS 868-TAK

In housing IP 54



230V, 4-channel	13290020
12/24V AC/DC, 4-channel	13290010

Programming unit RS868-TAK

Incl. software, power adapter and USB-cable



13290030



Product features

- Frequency 40MHz, with self-adjusting technology, the transmitter code is learned into the receiver.
- Homelink compatible (used by some car brands)

BT 40 transmitter with code

Compatible with former radio system HS 40 series, button colour light grey



BT 40 transmitter

1-channel: BT40-1B	13150010
2-channels: BT40-2B	13150020
4-channels: BT40-4B	13150030

Wallmounting
incl. clip

13150070
battery 13140010
12V Alkaline, L1028

1-channel radio receiver self-adjusting

up to 64 different codes programmable.
Per coding an indefinite amount of transmitters is possible.

BT40-STM

Radio receiver board,
not suitable for PULL !



13260040

BT40-cable

Radio receiver with 4 pol. connection cable,
24V AC/DC



13260080

BT40-SO24V, BT40-SO230V

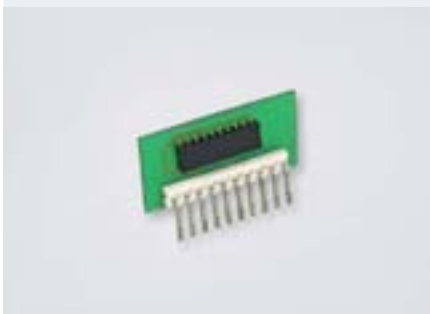
Radio receiver with 11 pole socket



24V AC/DC	13260020
230V	13260010

BT40-STN-adapter

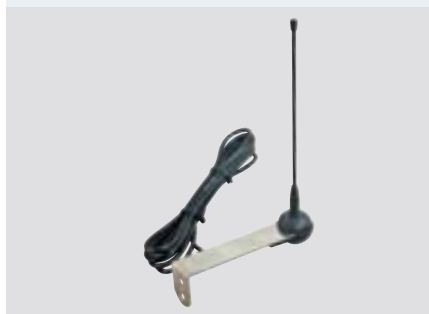
Enables the use of BT40 radio system on
all new tousek control units (ST12, ST51) in
combination with BT40-TT6, pluggable,
not suitable for PULL !



13260100

Antenna FK4/2

For 40 MHz, with 2m coax cable, for larger
range



13250100

Plastic housing

For radio receiver, IP65
HxWxD: 200 x 155 x 80mm



12140190



Operate automatic gates with your mobile telephone

GSM 400, GSM 420 RS 868

NEW

Product features

- A simple call and the gate opens, no SMS necessary
- No call charges as no connection
- A prepaid SIM card is enough
- Up to 300 different mobile numbers can be memorized
- Delete and add transmitters easily by SMS
- Output adjustable via SMS with operating mode on / off, impulse or time-controlled (from 0 to 9999 sec.).
- In case of an accident (Power ON Reset) SMS and / or phone calls can be sent to a max. of 8 phone numbers.
- GSM antenna with magnetic base
- Suitable for DIN rail mounting

Additional product features GSM 420 RS 868

- Two inputs, where an SMS can be assigned, for example, as a notification of the door position (open, closed)
- Up to 100 storage locations for transmitters
- Delete and add transmitters easily by SMS or from GSM module
- Built-in 2-channel receiver suitable for tousek RS868
- One of the two channels is the GSM channel
- Optional software for easy management



GSM 801 Software



Technical data

- power supply: 230V AC
- GSM-Band: Quad 850/900/1800/1900 MHz
- IP10

Type		Product code
GSM 400	1-channel, only for mobile phones	13280270
GSM 420 RS 868	2-channel, for mobile phones AND Tousek transmitter RS 868	13280280
Gehäuse	for GSM 400 and GSM 420 RS 868	12140350
GSM 801 Software	only for GSM 420 RS 868, incl. connecting cable(USB)	S35119



The SIM-card is not included with GSM-Module.
For charges of SIM-card please contact your mobile phone provider.





Overview impulse emitters	Page
Key switches surface mount	90
Key switches flush mount	91
Pushbuttons, switches	92
Coin tester, induction loop detector	93
Access control system EWS	94–95
Code lock	96



Impulse emitters

Key switches

Product features

- Surface mount or flush mount switches
- Mechanical cover lock
- Anodised aluminium front plate
- Prepared for 40mm half profile cylinder
- Contact load max. 250V/10A, 1-pole

Surface mount-, flush mount key switches in plastic housing IP54

MP- APZ 1-1T

One-way contact



13360260

With cylinder and 3 keys

13360250

MP- APZ 1-2T

Two-way contact



13360240

With cylinder and 3 keys

13360230

Surface mount key switches in light metal housing IP54

M- APZ 1-1T

One-way contact



13360180

With cylinder and 3 keys

13360190

M- APZ 1-2T

Two-way contact



13360200

With cylinder and 3 keys

13360210

J- APZ 1-1T

One-way contact



13360010

J- APZ 1-2T

2-poles

Two-way contact



13360050

J- APZ 1-1R

2-poles

One-way maintained contact



13360030

J- APZ 1-2R

2-poles

Two-way maintained contact



13360070

J- APZ 2-1T

One-way contact + STOP button



13360090

J- APZ 2-2T

CLOSE-OPEN switch + STOP button



13360110

J- APZ 3-1R

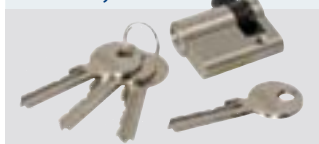
OFF-ON switch with CLOSE-OPEN button



13360150

Profile half cylinder

With 3 keys



13300040

Simultaneous locking for tousek emergency release

13300220

Additional key

13300230

Rocker switch IP44

1-way rocker contact, surface mount



AP 1T, momentary

13320090

Rocker switch IP44

2-way rocker contact, surface mount



AP 2T, momentary

13320060

AP 2R, maintained

13320030



Flush mount key switches in light metal housing IP54

MR 1-1T

One-way momentary contact mini key switches, Ø 60mm



13370300

With cylinder and 3 keys

13370310

MR 1-2T

CLOSE-OPEN button mini key switch, Ø 60mm



13370320

With cylinder and 3 keys

13370330

J- EPZ 1-1T

One-way contact



13370070

J- EPZ 1-2T

2-poles

CLOSE-OPEN switch



13370150

J- EPZ 1-1R

2-poles

One-way maintained contact



13370110

J- EPZ 1-2R

2-poles

Two-way maintained contact



13370180

J- EPZ 3-1R

CLOSE-OPEN switch with CLOSE-OPEN button



13370270

Fire brigade switch

ON-OFF switch with triangle keys



AP: 13360270

UP: 13370460

GSB pillar

Hot-dip galvanised or red painted, massive tube, with ground plate, bolt-on also large version available (truck/car)

GS EPZ

For GSB pillar



GS EPZ 1-1T 1-way momentary

13370010

GS EPZ 1-2T CLOSE-OPEN button

13370030

Hot-dip galvanised

13300020

Red painted

13300010

Red painted, large version (trucks/cars)

13300110

Foundation plate, galvanised

13300070



J- EPZ 2-1T

One-way momentary contact + STOP button (also for pillar GSB)



13370210

J- EPZ 2-2T

CLOSE-OPEN button + STOP button (also for pillar GSB)



13370230

Rocker switch IP44

1-way rocker contact, flush mount



UP 1T, momentary

13320010

Rocker switch IP44

2-way rocker contact, flush mount



UP 2T, momentary

13320050

UP 2R, maintained

13320020



Impulse emitters

Buttons, switches

Push-buttons IP 65

KDT1
1-way push-button
with „I“-button



13330090

KDT2
2-way push-button
with „↑↓“-buttons



13330110

KDT3
3-way push-button
with „↑○↓“-buttons



13330120

KDT4 3-way
Push-button with
„↑○↓“-buttons
and key knob



13330150

KDT1N
Emergency
push-button



13330100

Keys toggle
For KDT 1,
maintained contact



13300090

Turning toggle
For KDT 1,
maintained contact



13300080

Without housing

Main switch

Max. contact load

230V / 4 kW

400V / 4 kW

400V / 4 kW



Built-in 2 poles

13310050



Built-in 4 poles

13310040



Surface mount 4 poles

13310020

Pull buttons

In light metal housing,
IP65

plastic S1-U1

Mounting KIT
For pull button, incl. 2m
chain and pull ring



13340020



13340010



13300100

Main switch

For DIN-rail



13310090

Roller contact limit switch

In light metal housing



13550010

Limit contact switch

With roller



13350020

Spiral cable

Plastic, 3-pole, Length: 1,5m
extendable up to 3,5m



13500010

Weekly timer

2-channels



13460020

Yearly timer

2-channels



13460030

Programming device

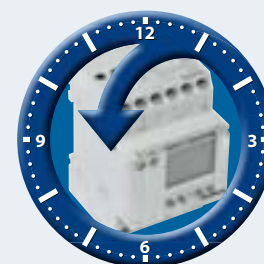
For timer



13460050

Programming of timer

E.g. opening times, holidays, etc.



14150400



Coin testers

MP 11

Mechanical coin tester for coins incl. relay



S34202

MP 30

Electronic coin tester incl. power supply, for Euro coins and coins



13420110

WM29, WM29 EP Coins

For MP11 and MP30, Ø 29mm, WM29 EP for own name branding (min. 1000 units)



WM29

13420100

WM29 EP

13420120

Heater HZG30 for MP 30

Necessary for MP 30 outside mounting, 230V, incl. thermostat



S34203

Induction loop and detectors

ISD 5

1-channel induct. loop detector



13430130

ISD 5/2

2-channels induct. loop detector, recognizing direction



13430120

PTFE-wire

1 roll = 70m, 1,0mm², Tmax 180°C



13400270

Plastic housing

For 2 induct. loop detectors



13600130

ISD 6 **NEW**

2-channels, pluggable for ST 80, STA 11 and TPS 60 PRO



13430140

Ready made induction loop



13400220

Incl. 10m twisted wire feed cable, to install before last layer of drive way. The price/cm refers to the length of the induction loop



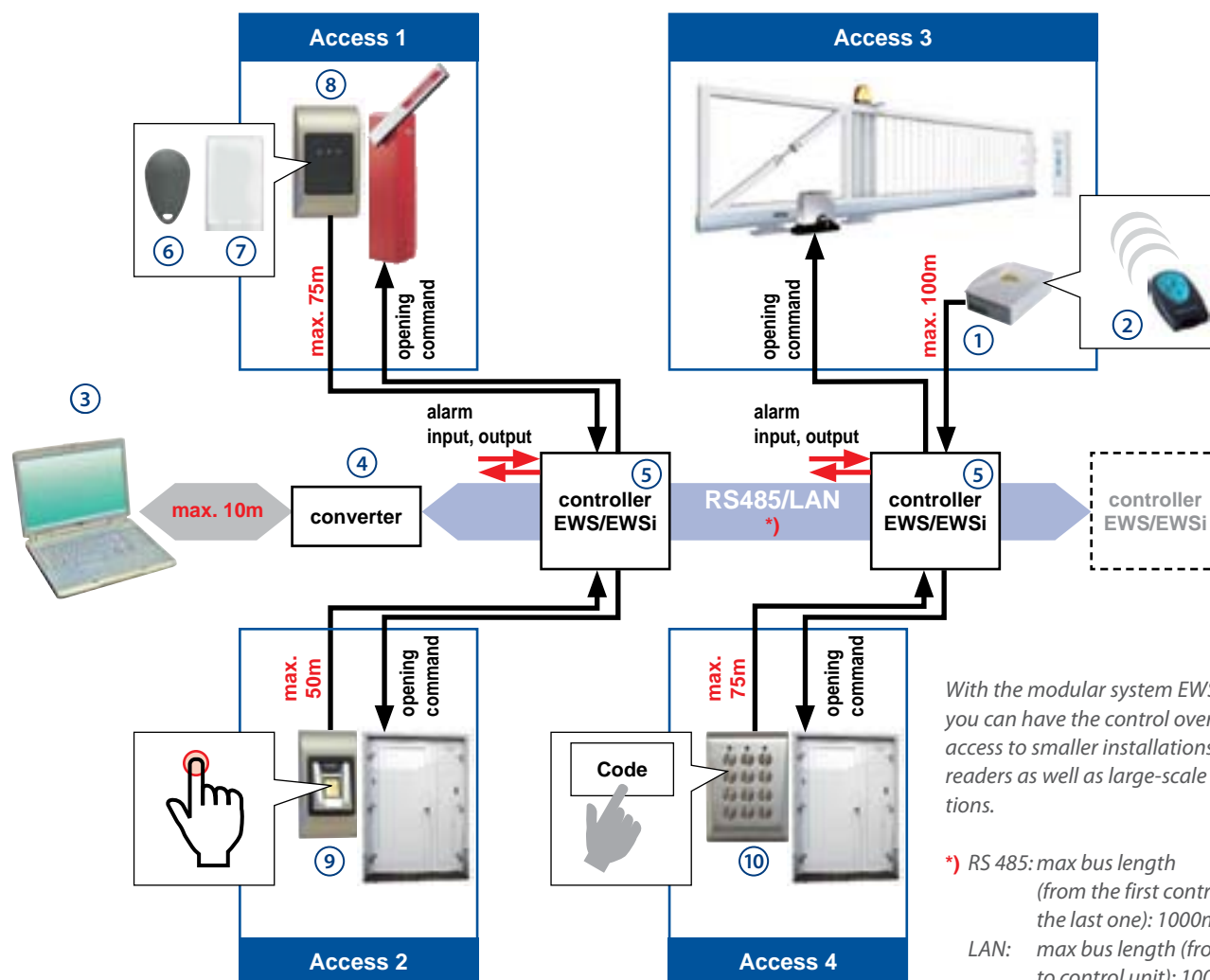
Impulse emitters

Access control EWS

Product features

- Contactless technology with cards, keys or transmitters
- Access through fingerprint reader, code reader and/or card reader, as well as transmitter
- User administration and card management
- User and event memory
 - with 1.000 users you can save up to 30.000 events or
 - with 15.000 users you can save up to 2500 events
- Up to 32 holidays manageable
- Up to 24 time sections manageable
- Anti Pass Back or sluice function
- Annual clock
- Access control with bus system RS 485 or TCP/IP
- Potential free output impulses (N.O./N.C., max. contact load: 250V/10A)
- One control unit can manage two readers / receivers
- Up to 32 control units can be linked via bus RS 485 (with TCP/IP unlimited)
- USB interface or LAN to PC
- Works on line and in off line mode
- Easy user software under Windows
- Power supply 12V DC with adapter 230V AC
- Fingerprint reader code reader and card reader with anti-theft screw
- Sabotage output

- ① Wiegand-receiver
- ② Wiegand-transmitter
- ③ PC
- ④ Converter RS 485/USB or LAN cable
- ⑤ Control unit
- ⑥ Code-key fob
- ⑦ Code-card
- ⑧ Reader
- ⑨ Fingerprint reader
- ⑩ Keypad





Controller EWS with RS 485 Bus

2 peripheral devices/EWS and up to 15.000 users manageable,
up to 32 controllers linkable

485/USB converter and software (see accessories) are required for PC connection

Type		Product code
EWS Print	12V d.c., without software	13470250
EWS-Kit	In plastic case with adapter, IP 54	13470260

Controller EWSi with TCP/IP and RS 485 Bus

2 peripheral devices/EWS and up to 15.000 users manageable,
TCP/IP: numbers of controllers unlimited, RS 485 Bus: up to 32 controllers linkable

A network cable is required for the PC connection. Software: see accessories

EWSi Print	12V d.c., without software	13470270
EWSi-Kit	In plastic case with adapter, IP 54	13470280

Peripheral devices

Aluminium cast housings, surface-mounted, IP 54, light grey

Mini-fingerprint reader	up to 9500 finger prints	13470550
Mini-keypad	blue-lit keypad	13470300
Mini-reader	read distance: up to 5 cm	13470310
Mini-button	touch sensitive button (4-poles)	13470320

Note: the line "mini" is also available in dark grey. Delivery time approx. 2-3 weeks.

UP-keypad	brushed stainless steel, blue-lit metal keypad	13470370
AP-keypad	brushed chrome, zamak, IP 67	13470380
AP-Code pad slim	aluminium cast, grey/chrome matt, IP 67 blue-lit metal keypad	13470390
Access key fob	plastic leather	13470470 13470480
Access card	credit card sized	13470490
Receiver Wiegand	RCW 433, in plastic case IP54	13270230
Transmitter Wiegand	1-, 2- or 4-channels Tousek RS433	see RS433- radio system

Equipment

Box for controller	dimensions (WxHxD): 252 x 190 x 110mm	12140210
Adapter for EWS line	230V/12V DC	13470400
Converter RS 485 on USB		13470410
Software TZK Lite	for local application on your PC	13470610
Software TZK-Web	server with Linux	
In control cabinet (WxHxD: 380x300x210mm), for network application and/or internet application (via PC, iPhone, IPad, mobile phone)		



Impulse emitters

Fingerprint reader, code keypads, code key reader



Fingerprint reader SA2 (W x H x D: 51 x 92 x 25mm)

- Use: finger drag
- Robust aluminium- cast housing with back light (switchable)
- Up to 97 fingerprints and 8 user groups
- A floating changeover contact output, max. 3A/250VAC, monostable up to 60s or bistable
- Programming by scrolling and tapping and LED status indicator with 3 colors
- Input for exit button
- Detection of fake fingers such as „rubber fingers“
- A special surface coating protects against scratches caused by fingernails

Type	Product code
Fingerprint reader SA2	12VDC, IP65, light gray
	13470620

Note: also available in dark gray. Delivery time approx. 2–3 weeks.



Code pad TORCODY RS 433 and RS 868

suitable for radio receiver RS433 and RS 868, 4-channels (3 with code, 1 without code)

TORCODY 433	black	13170030
	white	13170050
TORCODY 868	black	13170080
	white	13170090



Code locks CODY LIGHT

Housing IP54, including metal pad IP65

TCS CODY LIGHT-V3	230 V AC and 24 V AC/DC, 1-channel	13450270
TCS CODY LIGHT-V3 1/2-V3	230 V AC and 24 V AC/DC, 2-channels	13450330
TCS CODY metal keypad	additional pad, up to 4 unit(s) possible, for intensive use	13450180



Code key readers TL1000, contactless

Housing IP54, keyboard IP65, up to 1000 different keys programmable, 4 entrances, 2 readers can be connected, 230V

TL 1000	pot.free contact, incl. 2 grey key, 1 reader	13440560
TL 1000/T	12V AC output contact, incl. 2 grey keys, 1 reader	13440660
Add. reader TL1000	for code key reader TL1000	13440630
Transponder keys	green	13440600
	blue	13440590
	red	13440610
	grey	13440580
Programming pad	for deleting keys from the code reader	13440570
Distance housing	for mounting on metal	13440620





Overview of safety devices	Page
Transmitter-receiver photocells	98–99
Reflective photocells	99
Signal lamps and traffic lights	100
Safety contact edges, switching devices	101
Inductive signal supply system TX 400i	102
Radio transmission system TX 310	103
Mobile power supply TX 100	104



Safety devices

Photocells LS 41, LS 180

General product features

- Very slim shape (40mm)
- Cable entry optionally on the back side (covered) or underneath
- 12/24V AC/DC
- Surface mount

Additional features LS 180

- Tiltable lens 180°
- Lens separated from electronic



LS 180: tiltable lens



Can be used also in case of very narrow pillars



Vandalism protection (stainless steel)

			Product code
LS 41	fixed lens, range 8m		13510330
LS 180	tiltable lens, range 20m		13510340
Metal pillar for cars	height: approx. 500mm,	red coated silver coated	13500500 13500460
Metal pillar for trucks/cars	height: approx. 1.060mm	red coated silver coated	13500490 13500470
Mounting base plate	for metal pillar LS 41 and LS 180		14150170
Vandalism protection	stainless steel		13500480



Product code

Reflective photocells RLS 610, RLS 620

Reflective photocell with reflector, with polarised filter			
RLS 610	24-230V AC/DC, up to 7m range		13510260
RLS 620	12-240V AC/DC, up to 9m range		13510280
Accessory kit	plastic cover for reflector and metal housing	red	S35113
		silver	S35114
Metal pillar		red	13500120
		silver	13500410
Pillar in stainless steel			13500320
Mounting base plate			14150170



Transmitter-receiver photocell LS 26 up to 20m

12-24V AC/DC, suits Standard-UP box, with SYNC-function, lens with 3 bolts adjustable		
LS 26		13510240
Set of AP-cover	plastic, for surface mount	13510290
Metal pillar for cars	height: 660mm, red painted	13500050
Metal pillar for cars/trucks	height: 1.060mm, red painted	13500150
Mounting base plate		14150170



Transmitter-receiver photocell LS 45 up to 30m

12/24V AC/DC, plastic housing, surface mount, side mount possible, lens with 3 bolts adjustable		
LS 45		13510350



Transmitter-receiver photocell LS 100 up to 30m

Supply voltage 12/24V AC/DC, simple surface mounting		
LS 100		13510520



Safety devices

Traffic lights, signal lamps



Product code

Signal lamp LED

2 LED lamps, durable, fail-proof, for ST 12/5, ST 51, ST 61, PULL, TPS, prepared for antenna FK 433 or FK 868 (see page 85)

Signal lamp LED		13720210
Mounting bracket	made of stainless steel	13700290



Traffic lights SGA

Plastic housing, excl. bulb, Ø Lens: 120mm, lamps in RED, GREEN, YELLOW and RED/GREEN with pivot fastening, incl. diffuser disc. RED/GREEN-lamp additionally with connection bracket.

Traffic lights SGA	red	13710050
	green	13710060
	yellow	13710070
	red/green	13710090
Bulb for traffic light	230V, 40W, E27, impact resistant	13700070
LED-Lamp white	for traffic light with socket, E27, impact resistant, durable, fail-proof	13700260

NEW

LED traffic light

black, solid plastic housing, incl. rigid mounting bracket, 110-230V AC, Ø Lens: 100mm, IP65, Angle: 60°, power consumption: 7W

LED traffic light	red/green	13710210
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Traffic light pillar

For RED-GREEN traffic light with pivot fastening. Form tube 80x80x3mm, height 1810mm, with ground plate, zinc coated

Traffic light pillar		13700170
Mounting base plate	zinc coated	13300070

Traffic light pillar short

Height 1000mm, zinc coated, for mounting onto barrier housing

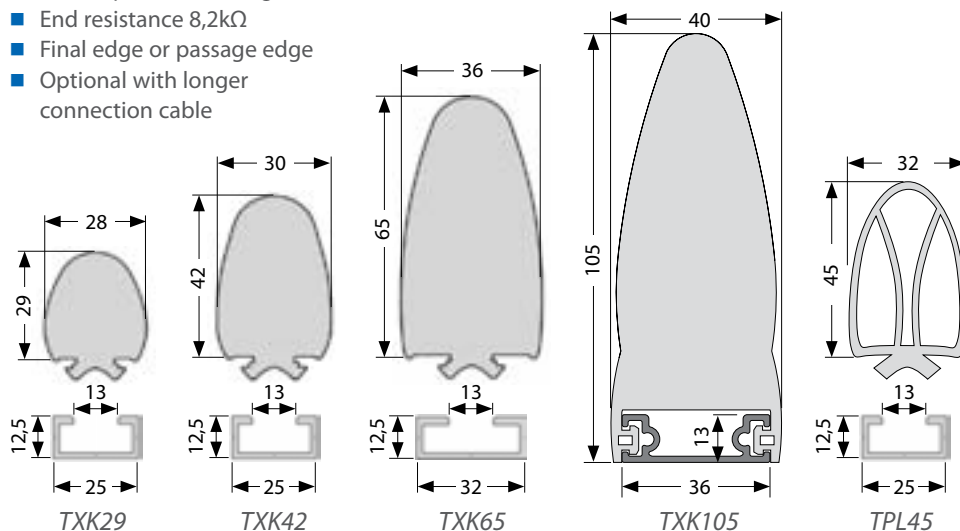
Pillar short		13700190
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Product features TXK safety sensing edges

- To secure closing edges and shearing zone
- Rubber profile with integrated switch surface and 1m connection cable
- End resistance 8,2kΩ
- Final edge or passage edge
- Optional with longer connection cable



Dimensions in mm
see indicative dimensions

Safety sensing edge TXK

Type		Product code
TXK	base price one-way connection (final edge)	13650120
TXK-BA	base price two-way connection (passage edge)	13650130
TXK29	cm-price	13650141
TXK42	cm-price	13650151
TXK65	cm-price	13650160
TXK105	cm-price	13650250
Additional price	for connection cable extension, available in 4m and 10m	13650060

Note: Formula to calculate price for safety sensing edge: base price + (cm-price x length)
e.g.: 1,5m Type TXK42, einseitiger Anschluss: 92,90 + (0,65 x 150) = 190,40

C-Profile for TXK

C-Profile for TXK29 u. 42	stock length 6m	13600140
	assembled	13600150
C-Profile for TXK65	stock length 6m	13600160
	assembled	13600170
C-Profile for TXK105	assembled	13600190

Switching device safety category 3 in accordance of EN 954-1

230V resistance evaluator, for operators from other brands without direct connection for safety contact edges		
DUO 352.00Z	1-channel, in plastic housing IP 65	13630230
DUO 362.00Z	2-channels (2 inputs and 2 outputs), in plastic housing IP 65	13630240

NEW

Passive edge TPL 45 for main closing edge (gate front side)

Rubber profile without switch function, incl. C-Profil TXK 42

passive edge	1,3m	13650300
passive edge	1,7m	13650310
passive edge	2,0m	13650320

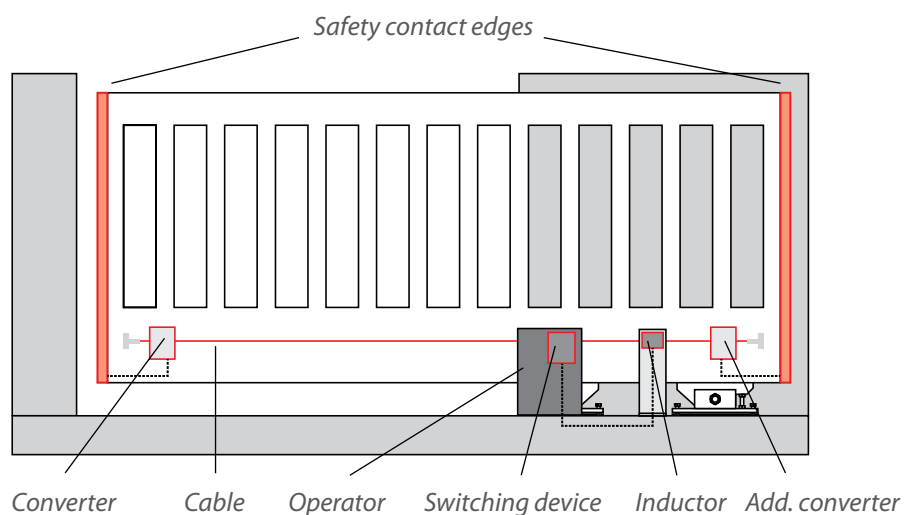


Safety devices

Inductive signal supply system TX 400i

Product features for inductive signal transmission system TX 400i

- Long durability and low operating cost (wear-free signal transmission)
- Simple function and error analysis via 7-Segment-display helps saving time in the periodic maintenance works
- High flexibility for gate construction because of small inductor dimension
- „Hidden“ installation possible to reduce vandalism risk
- Safety category 3 in accordance of EN954-1
- Switching device for mounting onto DIN-rail
- Switching output: potential-free break contact N.C.



TX 400i - inductive signal transmission system

Type		Product code
TX 400i	incl. 2-channel 8,2kΩ resistance evaluator, up to 11m drive	13660390
Additional converter	for gate back edge	13660400
Pillar with fork	for TX 100 and TX 400i, hot-dip galvanised, height adjustable, max. 450mm	13660190
Plastic housing	for TX 400i	13600130

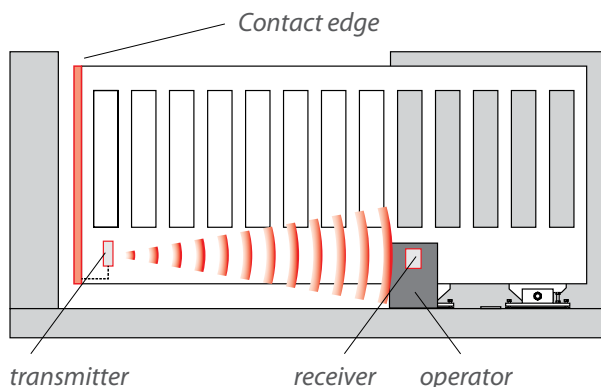


Product features for radio transmission system TX 310

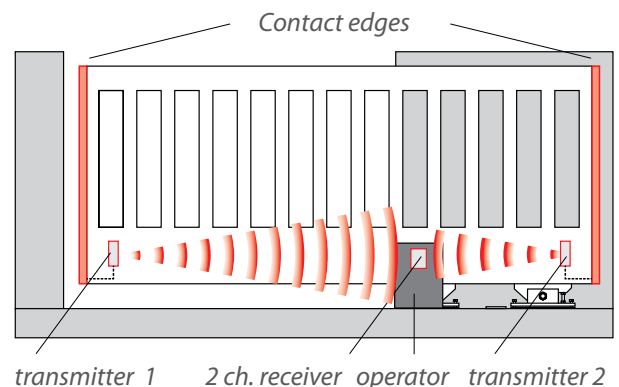
- Bidirectional radio system, 868,95MHz and 869,85MHz
- Automatic frequency frequency adjustment or manual frequency adjustment provides high interference safety
- 1 input for 8,2kΩ safety contact edges
- 1 output either 8,2kΩ or potential free
- Battery operation of transmitter with 2 Lithium-batteries 3V (Typ CR2032)
- Accoustic and optical signal for low battery indication
- Power supply for receiver: 12–24V AC/DC
- For gates up to 10m distance
- On request an implementation with 1 pot. free contact, e.g. pedestrian entry contact or photocell



Example TX 310



Example TX 310-2 channels



Radio transmission system for safety contact edges, up to DL 10m

Type		Product code
TX 310	transmitter-receiver-kit, 1-channel	13660380
TX 310-2 channels	NEW Kit: 2 transmitters, 1 receiver, 2-channels	13660530
Transmitter for TX 310	for additional transmitters for each channel, max. 10 (6) für TX 310 (TX 310-2)	13660440
Replacement battery	3V Lithium battery Type CR2032 for transmitter (2 units necessary)	13140040

The radio transmission system TX 310 is only suitable to be used with Tousek products!



Safety devices

Mobile signal supply system TX 100

Product features TX100

- For mobile signal emitters like e.g. safety sensing edges on gates
- Natural anodised aluminium
- Profiled tube
- 5 pole supply
- Cable trolley
- Incl. teflon spray
- Tube length 3.100mm

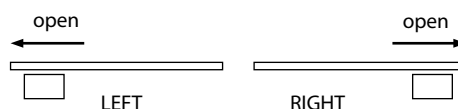
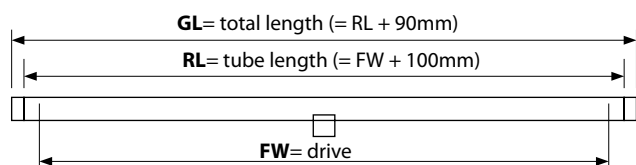


Mobile signal supply system TX 100

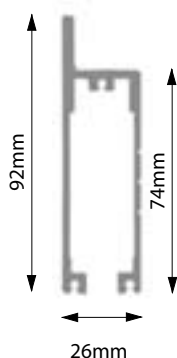
Drive (FW)	Total length (GL)	Product code
3,0m FW	3.190mm	13660090
4,0m FW	4.190mm	13660100
5,0m FW	5.190mm	13660110
6,1m FW	6.290mm	13660120
7,1m FW	7.290mm	13660130
8,1m FW	8.290mm	13660140
9,2m FW	9.390mm	13660150
10,2m FW	10.390mm	13660160
11,2m FW	11.390mm	13660170
12,3m FW	12.490mm	13660180
13,3m FW	13.490mm	13660220

Equipment

Forked pillar	for TX100, hot-dip galvanised, height adjustable max. 450mm	13660190
Lubricant spray	maintenance spray for link chain TX	13660270

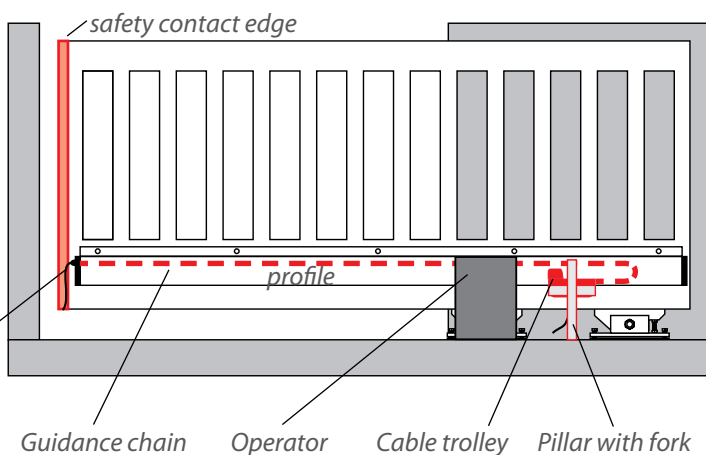


Pillar with fork



end cover with cable feed

Example of use for TX 100:





A

AEB: Abbr. for extended and retracted blocking. It is mainly used for swing gate operators and means that the operator is executed self-blocking in all positions (gate opened, gate closed). Usually no further locking mechanisms (e-locks, motorized locking bars) are necessary.

ARS: Abbr. for automatic reverse system. If the gate reaches an obstacle, it automatically reverses in the opposed direction.

ASS: Abbr. for automatic stop system. Comparable to ARS, but when reaching an obstacle, the operator stops.

Automatic mode: An impulse (e.g. by radio, torcody, keyswitch,...) causes the opening of the gate. After the adjusted time (see pause time) the gate closes automatically without giving any further impulse.

B

Bypass valves: Are used for force regulation at hydraulic gate operators.

C

Closed hydraulic system: All hydraulic operators of Tousek have this system. The advantage compared with usual, open systems (vent holes to the outside) is the resistance to dust and mainly atmospheric moisture.

D

Dead man's operation (Totmann): In this operating mode separate OPEN- and CLOSE commands exist. Impulses may only be given by a non-locking impulse switch. As long as it is actuated, the gate moves. When the impulse switch is released, the gate stops.

Duty cycle (ED): During a constant load, the motor starts heating up from the beginning of the load time. As soon as it is relieved, the temperature falls again. The relation of load- and relieve time is called duty cycle and stated in %.

F

Friction safety clutch: Is a safety device, where at least 2 friction surfaces are pressed against each other. As soon as the operator reaches an obstacle, these friction surfaces start sliding against each other.

I

Impulse operation: An impulse (by radio, key switch,...) causes the opening of the gate. The gate then remains in opened position until another impulse is given. Depending on the control unit, an impulse during movement makes the gate stop or reverse.

L

Leaf delay: The leaf delay causes a certain closing order, so that the two gate leafs don't collide during closing.

N

NB: Abbr. for non blocking (see also AEB). At non blocking operators additional locking devices like e-locks or motorized locking bars,... are required due to the missing self-locking.

P

Pause time: Is the time for which the gate remains in opened position in automatic operation. At most controls and operators this time is adjustable.

Pedestrian entry mode: Allows the partial opening of the gate for pedestrians. Sliding gates open approx. 1 m, at swing gates you can adjust the required opening angle at the control unit.

Pinion module: Is a basic measurement to which all further dimensions of toothing are related. It results of the proportion of diameter to teeth number of the pinion. Pinion and gear rack have to show the same module.

Potential-free contact: Is an electrical switch contact without voltage (potential).

Proximity limit switches: Are needed to define the exact limit positions of the gate. "Proximity" means that there exist no levers or cams, which could cause problems, mainly in winter.

R

Radio encoding: Through radio encoding you can give your transmitter a personal identification. At series BT40 B up to 1016 different adjustments are possible, at series BT40T up to 19683. At series RS433 and RS868 a fixed factory-code (by random out of over 67 bn.) is chosen.

Red pre-alert: Is only available in automatic operation and usually lasts 5 seconds, which means that 5 seconds before closing the signal lamp starts flashing, resp. the traffic lights turn to red.

Rolling Code: Each time you press a transmitter button, a new code is generated. All former codes become invalid and are no longer accepted. Therefore, scanning the radio signal is ineffective.

S

Self-adjusting radio receiver: Here the already encoded transmitter is stored in the receiver. The advantage, besides saving time, is the possibility to store more than one code (at BT40: 64, at RS433 and RS868: 340).

Soft start and -stop: Due to this system the speed at starting and stopping of the operator is reduced. It's main function is the noise reduction, basically at garage doors.

SPS-control unit: Abbr. for memory programmable control. This means, the behaviour of the control is freely selectable and so you can fulfil nearly all control-technical requirements.

SYNC-function: This photocell-function prevents the interference of pair wise mounted photocells. Thus, both photocell transmitters resp. -receivers can be mounted at the same side.

T

Torodial mains transformer: The advantage compared with an usual transformer is that you save up to 70% current in standby mode.



1. Validity/Conclusion

- 1.1. Henceforth the "Tousek Gesellschaft with beschränkter Haftung" shall be designated "seller", the other party to a contract shall be designated "buyer".
- 1.2. Only this version of the General Sale and Delivery Terms is valid, resp. as soon as a new version appears, this new one becomes valid. The actually valid version can be requested any time, whereas the latest date at the end of the General Sale and Delivery Terms is decisive for the actuality of the version.
- 1.3. These General Sale and Delivery Terms are valid for contracts between enterprises. For contracts between seller and consumer, as far as they are no enterprises, the legal regulations are valid in case of divergences.
- 1.4. The terms of sale and delivery shall apply to all types of contracts, not only to contracts of sale, and, even if not expressly agreed upon, shall also apply to future business contacts. Herewith the seller will not accept the buyer's terms of purchase. Neither will they be binding to the seller, even if the seller does not explicitly express his disagreement.

2. Offer

- 2.1. Offers and written sales materials will not be binding to the seller.
- 2.2. Offers and written sales materials, as well as Price lists, brochures, graphs, drawings and information about dimensions and weights will only be binding to the seller if separately and explicitly recognized by the seller.

3. Conclusion of a contract

- 3.1. A contract will be regarded concluded when the seller, after having received an order, has sent a written confirmation of the order or has dispatched a delivery.
- 3.2. Later changes of or additions to the contract require a written confirmation in order to be valid.

4. Prices

- 4.1. All prices are ex works or ex warehouse seller, not including freight, packing, loading and turnover tax/V.A.T. Any further fees, taxes and charges will be paid by the buyer.
- 4.2. Repairs will be carried out if deemed necessary and appropriate by the seller, and they will be charged to the buyer according to the actually required time and expenditures. This also applies to services and extra services which only in the course of the execution of a repair turn out to be necessary and appropriate. In those cases, however, the seller is not obliged to inform the buyer.
- 4.3. The buyer has to re-pay the seller all costs developing in the course of the setting-up of repair offers or examinations, even if no subsequent order is then placed by the buyer.

5. Delivery

- 5.1. The delivery time starts with the latest of the following dates:
 - a) Date of the confirmation of an order.
 - b) Date upon which all technical, commercial or other pre-conditions which are the responsibility of the buyer have been fulfilled.
 - c) Date upon which the seller receives a part payment or security due prior to the delivery of the goods.
- 5.2. Any authorizations or permissions required from official authorities or other third parties have to be obtained by the buyer. If such authorizations are not issued on time, the delivery will be delayed accordingly.
- 5.3. The seller is entitled to carry out and invoice partial or preliminary deliveries.
- 5.4. Keeping the agreed delivery time is conditional of unforeseeable acts or circumstances which cannot be influenced by the parties, like e.g. all cases of force majeure; these also include armed conflicts, official interventions or bans imposed by authorities, delay of transport and customs clearance, damage in transit, shortages of energy resources and raw materials, as well as a larger portion or essential part of the ordered item(s) becoming reject, or labour disputes. An extension of the delivery time is also possible if a supplier of the seller is subjected to above mentioned circumstances.
- 5.5. If the dispatch of goods ready for delivery is not possible due to reasons for which the seller is not responsible, or if the buyer does not wish the dispatch to be carried out, the seller is entitled to charge the costs of storage of the goods to the buyer, with the delivery being regarded as carried out. This will not alter the agreed terms of payment.
- 5.6. If no way of transport has been agreed upon, the seller is entitled to choose one at his own discretion without being obliged to check for the cheapest method of transport.
- 5.7. If the seller should overrun the delivery time for more than eight weeks, the buyer is entitled to set a period of grace of one month.
- 5.8. The buyer is in no case entitled to claim damages or decrease in value for reason of delay of delivery.

6. Fulfilment and transfer of risks

- 6.1. Utilization and risks are transferred to the buyer at the time of departure of the goods from the factory or warehouse at the latest, regardless of the terms of payment (like e.g. franco, c.i.f. etc.) agreed for the delivery. This provision also applies if the delivery is carried out in the course of an installation, or if the transport is carried out or organised and directed by the seller.

7. Payment

- 7.1. If no special terms of payment have been agreed, the seller's claims are due upon the buyer's reception of a delivery. If a delivery according to 5.5. is not possible, the seller's claims are due upon the buyer's reception of the invoice.
- 7.2. In case of a hire purchase the respective part payments are due upon the buyer's reception of the corresponding invoices. This also applies to invoice amounts which increase the original amount due to follow-up deliveries or other agreements, regardless of the terms of payment agreed for the main delivery.
- 7.3. Payments to the seller have to be made in cash without any deductions in the agreed currency. Cheques or bills of exchange will only be accepted for effecting payments. Any expenses arising in this context (like e.g. direct debit or discount fees) will be charged to the buyer.
- 7.4. The buyer is not entitled to withhold or offset payments because of guarantee claims or other counter-claims.
- 7.5. A payment is regarded carried out on the day the seller is able to dispose about it.
- 7.6. Regardless of other instructions issued by the buyer, all payments will first be charged to interest and expenses before being charged to capital. Nevertheless, the seller is also entitled to apply the corresponding legal regulations instead.
- 7.7. If the buyer is in default of an agreed payment or other service, the seller is entitled
 - a) to defer his own obligations until the buyer has effected his outstanding payments or other services.
 - b) to effect an adequate postponement of the delivery time.
 - c) to demand all outstanding payments (with the agreed delivery dates becoming ineffective), and
 - d) to charge interest on outstanding payments to the extent of 1% per month plus turnover tax from date of maturity, provided that the seller does not prove additional expenses, or,
 - e) in case of the buyer's non-compliance within an adequate period of grace, to withdraw from the contract.
- 7.8. Granted discounts or bonuses will be deferred until all outstanding payments have been fully settled.

- 7.9. The seller retains property of all delivered items until the invoice amounts, plus interest and expenses, have been fully paid. Until then the buyer is entitled to resell, process, manufacture or join the acquired goods only with the seller's written approval, except in those cases in which the goods were intended for being resold, processed, manufactured or joined. In order to secure the seller's claims on the outstanding sales Price payments, the buyer undertakes to assign his claims on the resold items to the seller, and to include a corresponding remark in his business accounts or invoices. Until the outstanding invoice amounts have been fully paid, the buyer undertakes to keep and administer the revenues obtained from reselling the goods in trust to the amount of the seller's pro rata sales Price. In case of seizure of or other demands on the goods, the buyer undertakes to point out the seller's ownership and to inform him immediately.

8. Warranty

- 8.1. Upon compliance with the agreed terms of payment, and in accordance with the following provisions, the seller undertakes to rectify any defects which impair the proper functioning of the goods if they are caused by an error in the design or by a material- or manufacturing defect.
- 8.2. Warranty period is 36 months, whereas the buyer has to verify the deficiency of the goods. This provision also applies to goods or services which are firmly linked to a building or estate. The warranty period starts at the moment of the transfer of risks according to item 6.1.
- 8.3. A claim under the warranty terms can only be accepted if the buyer has notified the seller in writing about the occurred defects without delay. If the claims are justified under the warranty provisions according to 8.1., the seller informed in this way undertakes, at his own discretion, to replace the defective goods or parts thereof, to mend them on the premises, or to have them sent back to him for repair.
- 8.4. All expenses arising in connection with the repair (e.g. for removing and reinstalling, transport and journey) are chargeable to the buyer. For warranty services being carried out on the buyer's premises the required assistant personnel, lifting devices, scaffolding and hardware parts etc. have to be provided by the buyer free of charge. Any replaced parts become property of the seller.
- 8.5. If the seller manufactures a product according to the buyer's designs, drawings, models or other specifications, the seller's liability will be limited to the previously agreed performances.
- 8.6. The warranty excludes those defects which result from installation not arranged for by the seller, from installation at unsufficiently equipped facilities, from disregarding the installation requirements and operating conditions, from subjecting the parts to loads in excess of the seller's ratings, or from careless, negligent or improper treatment or handling, or from usage of unsuitable operating materials. This provision also applies to defects originating from the use of materials provided by the buyer. The seller will not be liable for damage caused by acts of third parties, by atmospheric discharges, by excess voltage, or by chemical influences. The warranty does not include the replacement of parts which are subject to normal wear.
- 8.7. The warranty will expire immediately if the buyer himself or a third party (not explicitly authorized) carries out alterations or repair works on the delivered products without the seller's prior written permission. The seller will not accept invoices over any such works. Works and deliveries carried out under the warranty provisions will not extend the original warranty period.
- 8.8. Limitation period for claims of recourse regarding warranty is 6 months.
- 9. Withdrawal from the contract**
 - 9.1. Preconditions for the buyer's withdrawal from a contract are a delay of delivery through the seller's fault, as well as the unsuccessful expiry of an adequately set period of grace.
 - 9.2. With the exception of the provisions listed under 7.7.e) the seller is entitled to withdraw from a contract
 - a) if the delivery or the beginning or continuation of services is made impossible for reasons lying within the buyer's responsibility, and continues to be delayed in spite of the setting of an adequate period of grace.
 - b) if doubts regarding the buyer's solvency have arisen, and the buyer - on the seller's request - neither effects an advance payment nor presents an appropriate security prior to the delivery of the goods, or
 - c) if the extension of the delivery time, due to the circumstances listed under 5.4., totals more than half of the originally agreed delivery time, amounting however to a period of at least two months.
 - 9.3. The withdrawal from the contract can also be declared with regard to an outstanding part of the delivery or service in accordance with the above listed reasons.
 - 9.4. If insolvency proceedings are instituted about the assets of one of the parties to the contract, or if a petition for the initiation of insolvency proceedings has been turned down for lack of sufficient assets, the other party is entitled to withdraw from the contract without setting up a period of grace.
 - 9.5. In case of a withdrawal, and regardless of the seller's rightful claim to the payment of damages, already performed services or parts thereof will be invoiced and have to be paid according to the terms of the contract. This provision also applies to the case that the delivery or service has not yet been taken by the buyer, as well as to preparatory actions performed by the seller. Instead of this, the seller is however also entitled to demand the return of already delivered items.
- 9.6. Any other consequences from the withdrawal from a contract are excluded.
- 10. Liability**
 - 10.1. In cases in which the product liability law does not apply the seller can only be held liable for damage, in accordance with the corresponding legal provisions, if it was caused by provably deliberate action or gross negligence on his part. Liability for mild negligence, as well as compensation for follow-up and property damage, not achieved savings, losses of interest, and damage resulting from claims of third parties against the buyer, are excluded.
 - 10.2. Within the limits of the product liability law the seller can be held responsible for injury to persons as well as for property damage suffered by consumers. Neither the seller nor his suppliers and sub-suppliers will be liable for property damage suffered by an entrepreneur.
 - 10.3. In cases of non-compliance with any existing requirements for installation, setting into operation and use (like e.g. included in the connection-, installation- and operating instructions), or non-compliance with any official requirements, any claims for damages are excluded. The seller will in no case be liable for damage caused by the assembly of the devices and facilities. In addition, the buyer is obliged to make his best efforts in checking possible sources of errors and safety hazards.
 - 10.4. The limitations of liability according to items 10.2. and 10.3. will also apply in full content to the buyer's customers, including the obligation to pass on the cited limitations of liability to further customers.
- 11. Place of jurisdiction, place of fulfilment, applying law**

Any legal disputes arising from the contract - including those about its existence or non-existence - can only be brought for judgement before the factually competent court of law at the location of the seller's head offices - in Vienna this is the district court Innere Stadt Wien - except if the dispute has arisen from a consumer business matter on the buyer's side. The contract is subject to Austrian law. The application of the United Nations' UNCITRAL-agreement covering contracts about international sales of goods is hereby excluded by mutual agreement.

Vienna, 22. February 2007

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