Technical information / Planning document

PULL T8, -T10, -T15 / Master-Slave

sliding gate openers for opposite sliding gates

Fields of application:

- for all cantilever and rail driven sliding gates running in opposite direction with one master and one slave operator.

PULL T8, -T10, -T15 features

- Programmable control panel accessible from exterior with illuminated display in english
- Direct connection of 8,2 kOhm contact barriers (safety sensing edges (2-channels)
- Three operating modes (impulse, automatic and dead man)
- Adjustable partial opening
- Built in control board in separate housing
- Safety system ARS (automatic reversal system)
- Self locking worm gear
- Emergency release, lockable with profile half cylinder (3 keys included) - changeable, thus incorporation into an existing house key system is possible.
- Self learning end positions (limits)
- Drive unit (gearbox unit) made of steel and runs in an oil bath
- Permanently selflearning force
- Adjustable soft stop (no loss of force even with reduced revolution speed)
- worm gear and worm wheel made of tempered steel
- CE

Green safe

Safety Sensor

INITIAL TEST UNDER EN 13241-1*) by TÜV-Süd

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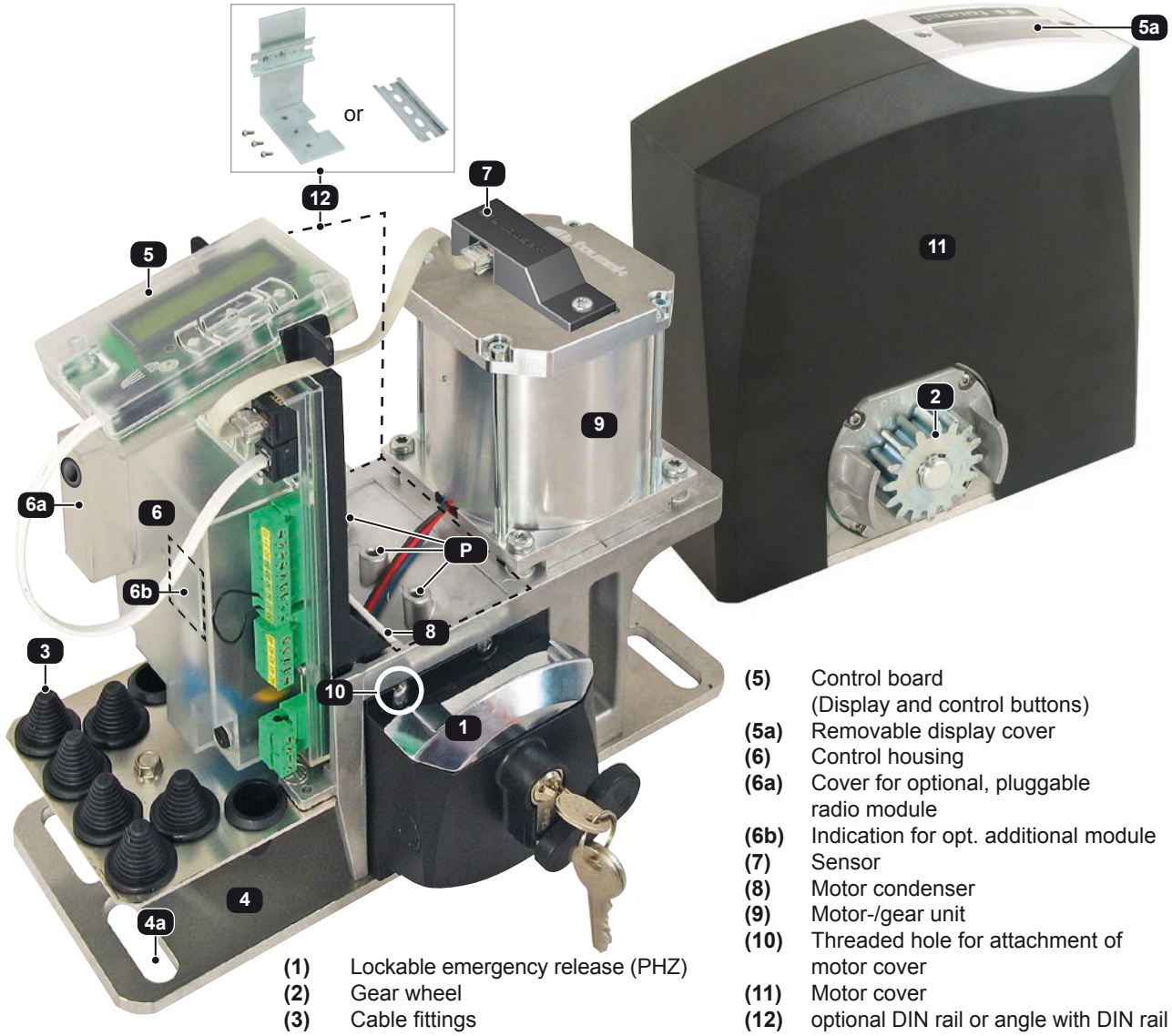
tousek®
GATE AUTOMATION

STAATLICH AUSGEZEICHNETES UNTERNEHMEN

Sliding gate operator PULL T8, -T10, -T15 / Master-Slave



(1) Lockable emergency release (PHZ)
(2) Gear wheel
(3) Cable fittings
(4) Ground plate
(4a) Slotted holes (4x) for mounting on the foundation/ground

(5) Control board (Display and control buttons)
(5a) Removable display cover
(6) Control housing
(6a) Cover for optional, pluggable radio module
(6b) Indication for opt. additional module
(7) Sensor
(8) Motor condenser
(9) Motor-/gear unit
(10) Threaded hole for attachment of motor cover
(11) Motor cover
(12) optional DIN rail or angle with DIN rail can be bolted at position **(P)** 3x: e.g. for two devices with 11 pole plug socket

Technical data

Sliding gate opener PULL-	T8	T10	T15			T8	T10	T15
control board	integrated			max. drive		30m		
Power supply	230V a.c., 50Hz			duty cycle in S3 mode		40%	40–60%	
max. current consumption (excl. equipment)	1,6A	1,9A	2,2A	Ambient temperature		-20°C bis +40°C		
Gear wheel	Z20M4	Z16M4		Protection class		IP44		
max. gate weight	800kg	1000kg	1500kg	Torque sensor		■	■	■
Spees	11m/min	9m/min		Art.no..	Master	11110430	11110640	11110680
Torque	25Nm		30Nm		Slave	11110440	11110650	11110690

optional equipment	pluggable receiver • additional module für courtyard/control lamp • additional module for gate status • bracket incl. top hat rail • radio transmission systemTX 310 • iinductive system TX 400i

Motor selection by using a spring scale	T8	T10	T15
Attach the spring scale to the gate at approx. the height of the rack. Then pull horizontally and without rocking at motor speed. Compare the max. detected tractive force with the guide values listed on the right.	up to 30kg	up to 40kg	up to 60kg

M selectable in Master control unit
M/S selectable in Master- und Slave control unit

Main layer		Sub layer	Settings/adjustments	
Button/Switch	**M**	**impulste switch**	⊙ OPEN/STOP/CLOSE ○ OPEN/CLOSE/ OPEN ○ OPEN ○ DEAD MAN	***) if impulse button is set to DEADMAN, then the pedestrian and close button are also set automatically to DEADMAN mode. (not selectable under „pedest.- button“)**
	M	**pedestrian button**	⊙ OPEN/STOP/CLOSE ○ OPEN/CLOSE/ OPEN ○ OPEN ○ DEAD MAN*)	
Safety	**M**	G **photocell**	⊙ activ ○ not activ	
	M/S	G **Main safety sensing edge**	⊙ activ ○ not activ ○ radio edge TX ○ TX 400	
	M/S	G **Side safety sensing edge**	⊙ activ ○ not activ ○ radio edge TX ○ TX 400	
	M	**photocell funtion**	⊙ reverse when closing ○ stop, after release open ○ during closing stop, then close	
	M	**photocell pause time**	⊙ no influence ○ abort pause ttime ○ re-start pause time ○ after opening close immediately	
	M	**photocell test**	⊙ activ ○ not activ	
Motor	**M/S**	**max. force**	○ 25...100% [increment 5]	⊙ = 70%
	M/S	**ARS-response time**	○ 0,15...0,95s [increment 0,05]	⊙ = 0,50s
	M/S	**speed**	○ 65...100% [increment 5]	⊙ = 100%
	M/S	**soft stop distance**	○ 0...2m [increment 0,1]	⊙ = 0,5m
	M/S	**soft stop spped**	○ 30...60% [increment 5]	⊙ = 50%
	M/S	**end position OPEN**	○ 0...-30 [increment 1]	⊙ = -5
	M/S	**end position CLOSED**	○ 0...-30 [increment 1]	⊙ = -5
Operating mode	**M**	**impulse logic**	⊙ Stop, Start of pause ○ impulse elimination during opening ○ pause time extension	
	M/S	G **opening direction**	⊙ <<<– left ○ –>>> right	
	M	G **operating mode**	⊙ impulse mode ○ automatic 1...255s [increment 1]	
	M	**partial opening**	○ 10...100% [increment 1]	⊙ = 30%
	M	**automatic mode**	⊙ complete/partial opening ○ only complete opening ○ only partial opening	
	M	**pause time logic**	⊙ no influence ○ constant open in automatic mode	
Lights/Lamps	**M**	**prewarning OPEN**	○ OFF, 1...30s	⊙ = OFF
	M	**prewarning CLOSE**	○ OFF, 1...30s	⊙ = OFF
	M	**additional module**	⊙ courtyard lamp/control lamp ○ gate status1 ○ gate status 2	
	M	**courtyard lamp** [1]	○ OFF 5...950s	⊙ = OFF
	M	**control lamp** [1]	⊙ on at opening and closing ○ flashes slowly/illuminates/flashes faster ○ illuminaTES IN OPENNG POSITION	
Diagnosis	**M/S**	**status disply**	➲ status display of all inputs	
	M	**delete positions**	⊙ NO ○ YES	
	M	**factory settings**	⊙ NO ○ YES	
	M/S	**software version**	➲ show software version	
	M/S	**serial number**	➲ show serial number	
	M/S	**protocol**	➲ show protocol notes	
	M/S	**status sensor**	➲ show sensor	

Note: some adjustments regarding function or operating logic can only be executed if gate is closed and if the display shows „ready“.

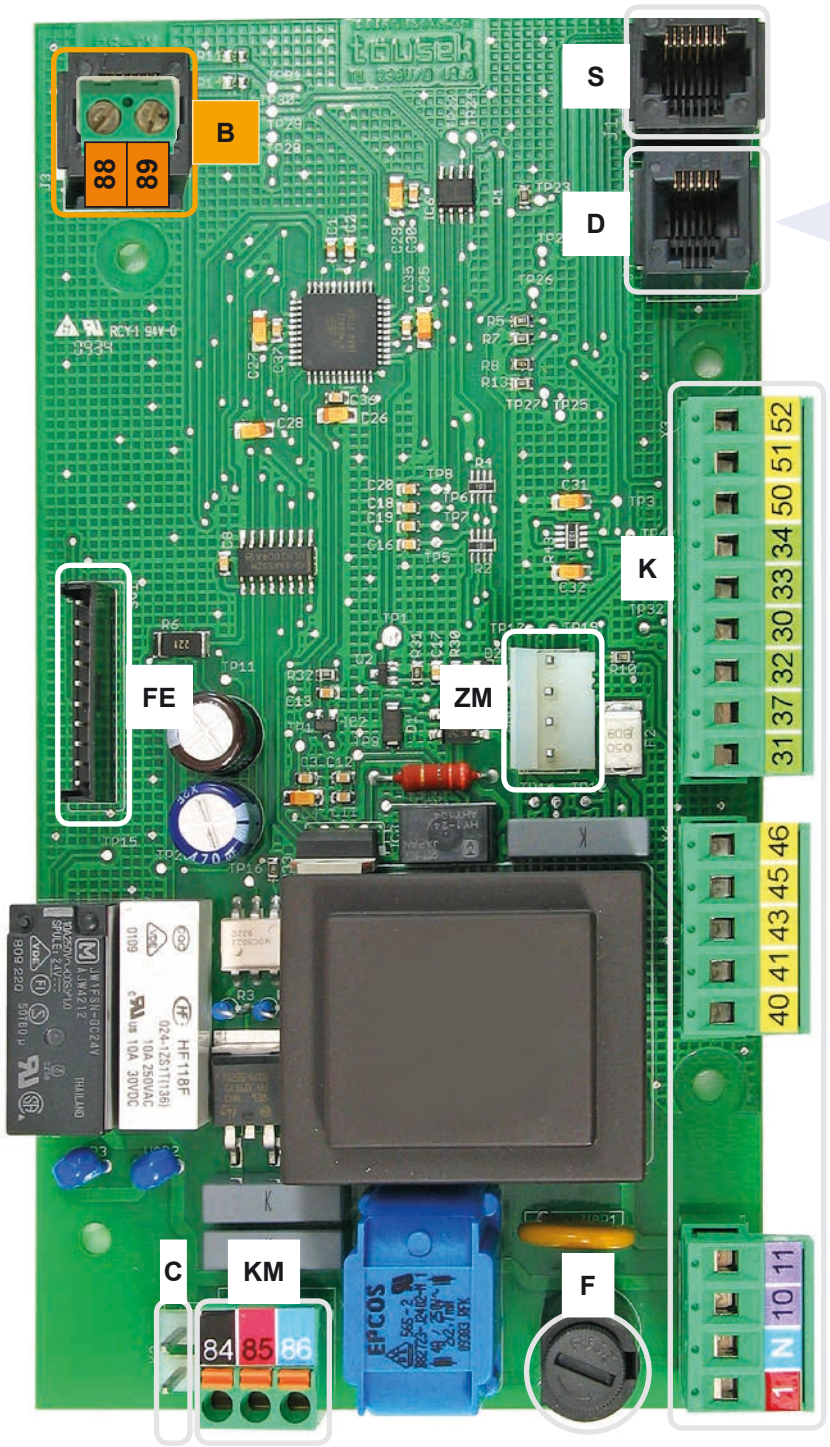
[1] **The menu points courtyard lamp and control lamp will only appear on display if in menu „Additional module“ ⊙ courtyard lamp/control lamp is selected.**

tousek DIGITAL

ESC ENTER

control board PULL T8, -T10, -T15 / Master-Slave

Overview of the control board



Important

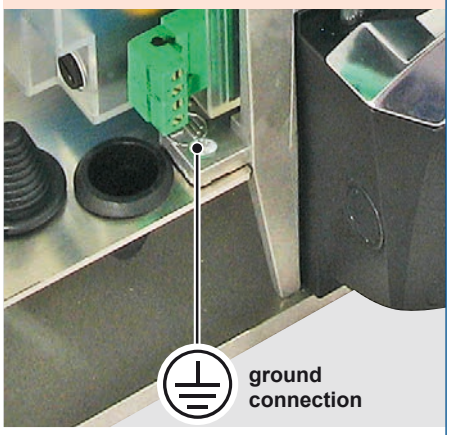
The optional „tousek-connect“ or the „tousek service interface“ must be connected with socket **(D)!**

Attention

During connection, adjustment and maintenance works please take care, that the electronic circuit board won´t be damaged by moisture (rain).

Grounding

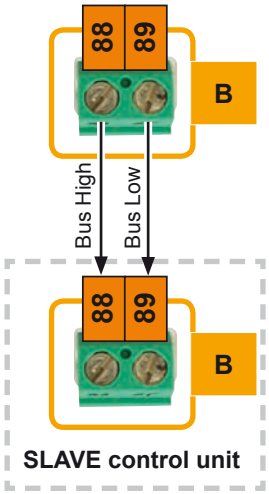
The grounding connection is made on the operator housing with the designated grounding screw!



Elements of control board

- **(K)** Terminal blocks
- **(KM)** Motor clamps
- **(C)** Condenser plug
- **(S)** Sensor plug
- **(D)** Display plug
- **(B)** **System connector (for connection Master/Slave)**
- **(FE)** Slot for optional radio receiver
- **(ZM)** Connection slot for optional module
- **(F)** Safety fuse T 3,15A

Master control unit

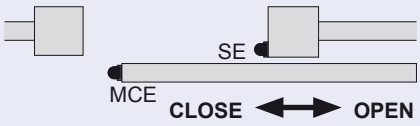


Connection Master /Slave control unit

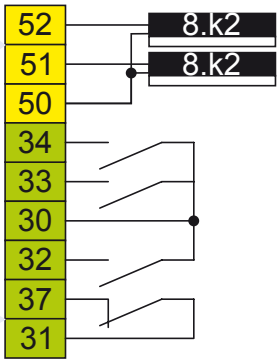
- For the connection of the master and slave control unit connect the terminals 88 and 89 in the system connector to each other.
- Max. cable length between the operators: 25m.
- Cable type e.g.: PVC control cable YSLY 2 x1mm² or equivalent.

Safety sensing edges

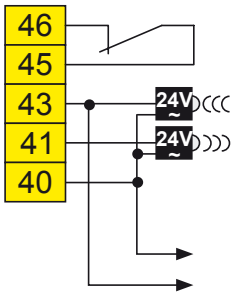
Function main safety sensing edge (MCE):
Safety during closing
Function side safety sensing edges (SE):
Safety during opening



If no stop switch is connected, terminals 31/37 have to be wire-bridged.

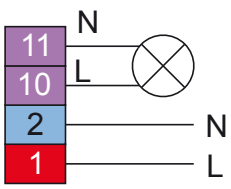


Main safety edge
Side safety edge
Common contact safety edge
Pedestrian - switch
CLOSE - switch
common
impulse - switch
STOP - contact



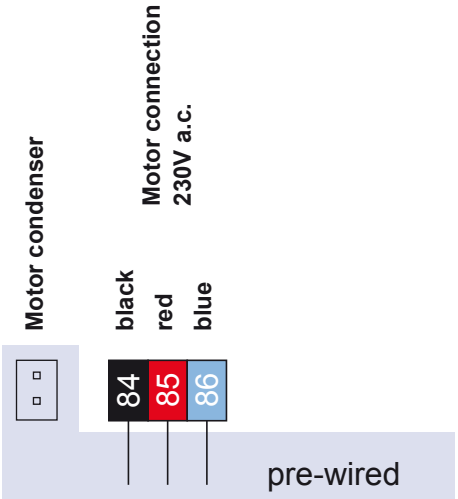
Contact for photocells
Common photocell contact
Power supply photocell receiver
Power supply photocell transmitter
Power supply common photocell

Power supply
max. 24Va.c., 5W



Signal lamp 230V, 100W

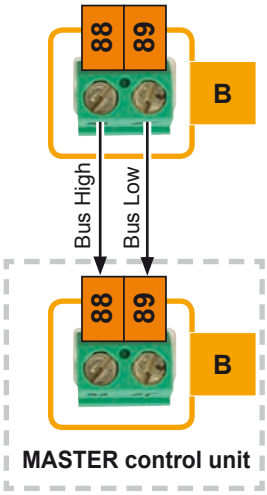
Power supply 230V a.c.



Grounding

The grounding connection is made on the operator housing with the designated grounding screw!

The stop input has no emergency stop function! - In order to ensure the emergency stop function, provide the supply line with an all-pole disconnecting emergency stop switch, that locks after actuation!

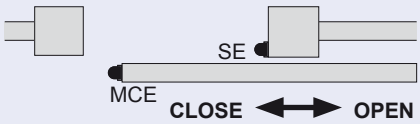


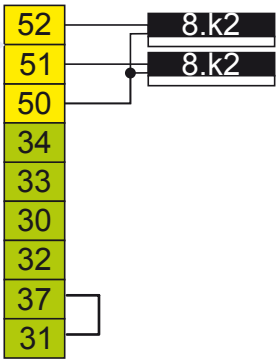
Connection Master /Slave control unit

- For the connection of the master and slave control unit connect the terminals 88 and 89 in the system connector to each other.
- Max. cable length between the operators: 25m.
- Cable type e.g.: PVC control cable YSLY 2 x1mm² or equivalent.

Safety sensing edges

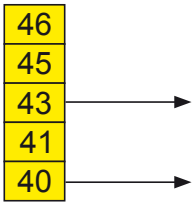
Function main safety sensing edge (MCE):
Safety during closing
Function side safety sensing edges (SE):
Safety during opening



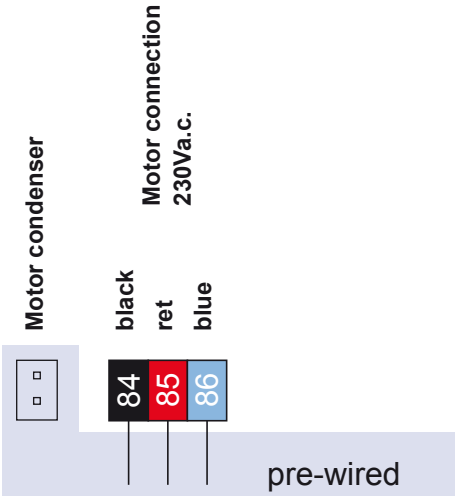


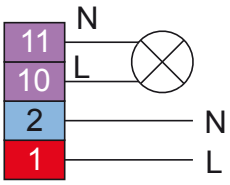
Main safety sensing edge
Side safety sensing edge
common contact safety edge

Jumper (must not be removed!)



Power supply
max. 24Va.c., 5W





Signal lamp 230V, 100W

Power supply 230V a.c.

Grounding

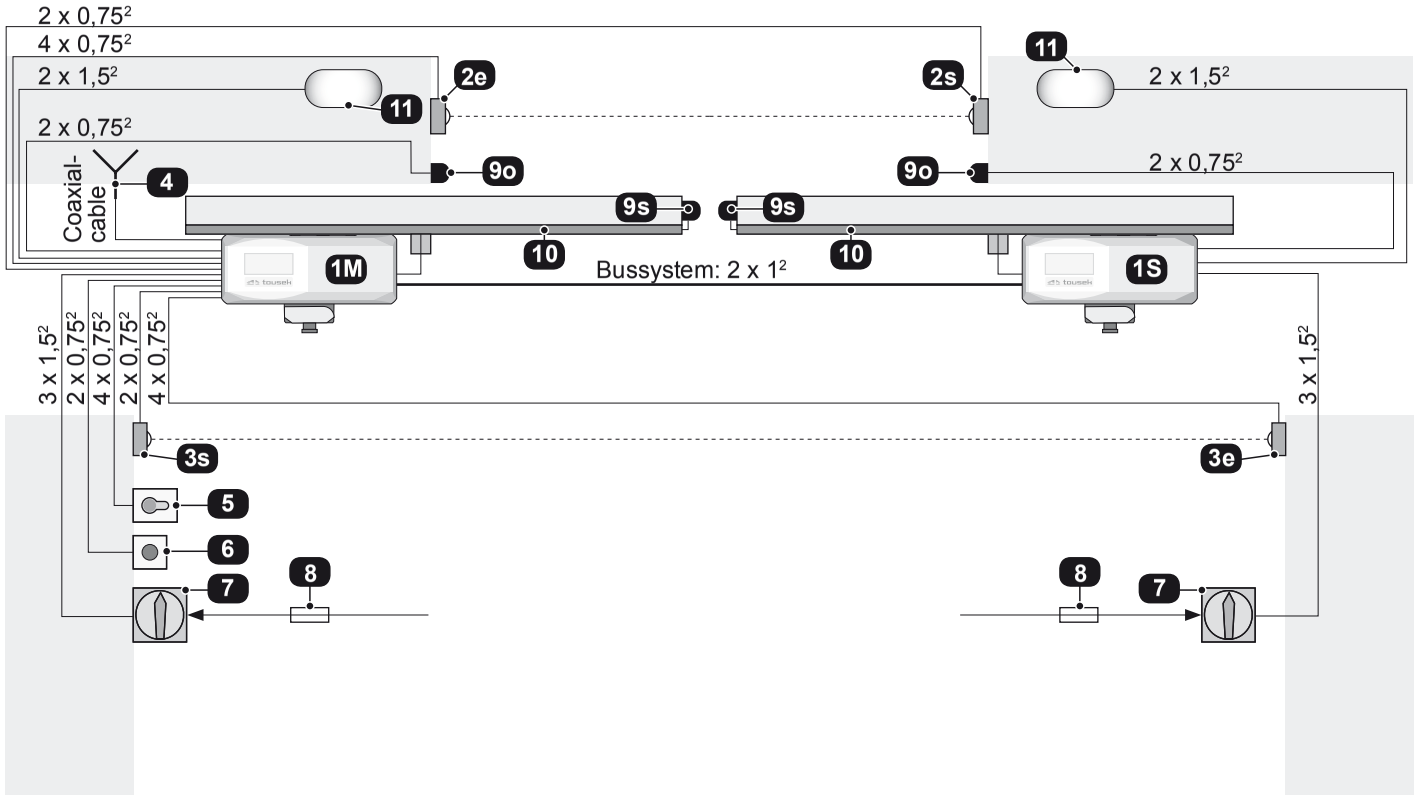
The grounding connection is made on the operator housing with the designated grounding screw!

see figure page 8

- **During connection, adjustment and maintenance works please take care, that the electronic circuit board won´t be damaged by moisture (rain).**

Cable plan M/S

1 operator TOUSEK PULL T8, -T10, -T15 (**M**=Master, **S**=Slave)
2 outer photocell (**s**=transmitter, **e**=receiver)
3 inner photocell (**s**=transmitter, **e**=receiver)
4 antenna for integrated receiver
5 key contact switch
6 stop button
7 main switch 16A
Note:An all-pole disconnecting main switch with a contact opening-gap of minimum 3 mm has to be foreseen.
8 fuse 12A
9 safety sensing edge
(**o**=safety when opening, **s**=safety when closing)
10 power supply sytem TX100
if you use a different system (e.g. TX200i or TX) see corresponding instruction manual
11 signal flashing light



NOTE concerning cable laying

The electric cables have to be laid in insulating sleeves which are suitable for underground usage. The insulating sleeves have to be lead into the inner of the operator housing.

230 V cables and control lines have to be laid in separate sleeves.

Only double-insulated cables, which are suitable for underground usage (e.g. E-YY-J) may be used.

In case that special regulations require another type of cable, cables according to these regulations have to be used.

SAFETY NOTE

Please be aware that the beside picture is only a symbolic sample illustration of a gate facility and may therefore not show all safety devices required for your specific application.
To achieve an optimum safety level at your gate facility, please make sure that all safety components and accessories which - according to the applying safety rules and laws - are required in your particular case (e.g. photocells, induction loops, sensing edges, signal lamps, traffic lights, mains- and emergency power off switches etc.) are properly installed, operated, and serviced.
In this context please follow the EU Machine Directive, accident prevention rules and laws, as well as applying EU- and national standards in force at the time of installation and operation of the gate facility.
The Tousek Ges.m.b.H. cannot be held responsible for any consequences resulting from disregard of applying standards and laws during installation or operation of the gate facility.

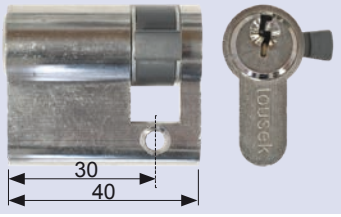
The 0,75mm² control lines are shown without ground lead. In order to facilitate connections we recommend using flexible wires and not using thicker wires for the control lines.

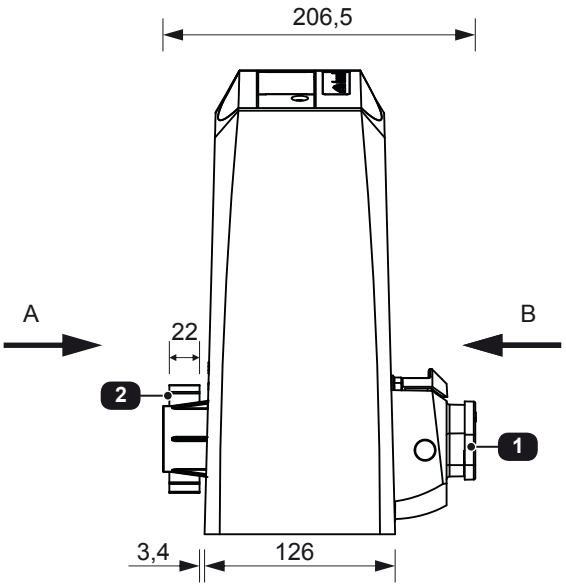
- Dimensions in mm

(1) lockable emergency release (euro standard cylinder)
(2) gear wheel
(3) cable entrance
(4) ground plate
(4a) slotted holes (4x) for mounting on foundation
(5) display for programming

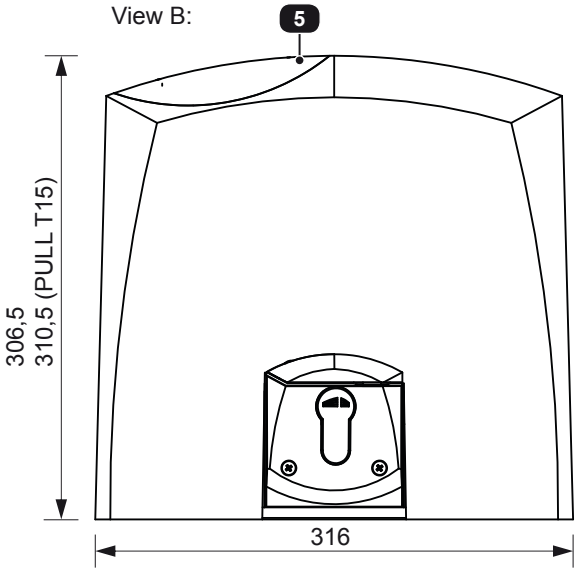
PULL	-T8	-T10	-T15
[1] gear wheel	Z20M4, r44	Z16M4, r36	
[2] gear wheel center	63		67
[3] gear wheel top	107	99	103

optionalhalf cylinder (PHZ)
with 3 keys (Art.code13300220)

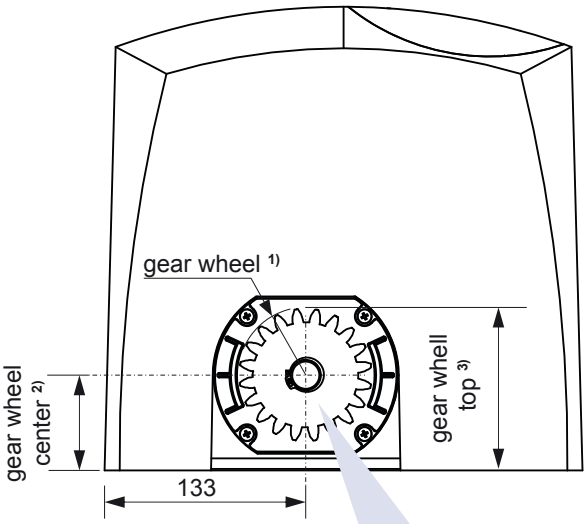




View B:

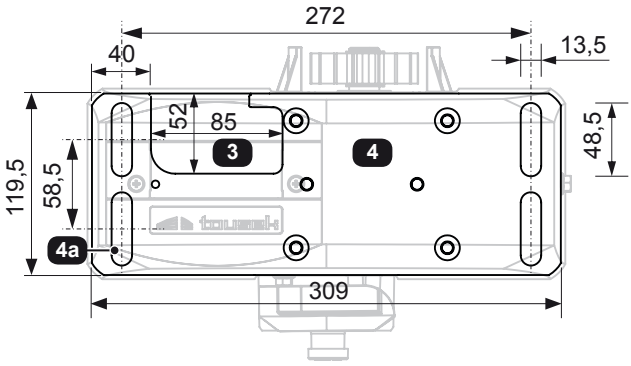


View A:

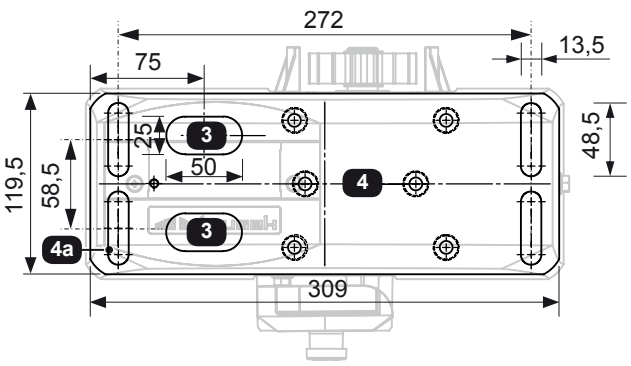


Fixing of the gear wheel:
- PULL T8, T10: Seeger ring
- PULL T15: with screw

PULL T8, -T10: depth of ground plate = 8mm

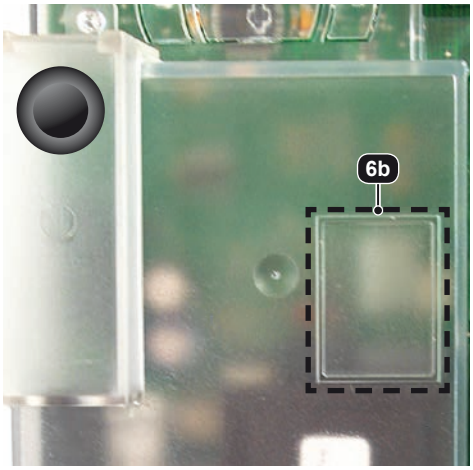


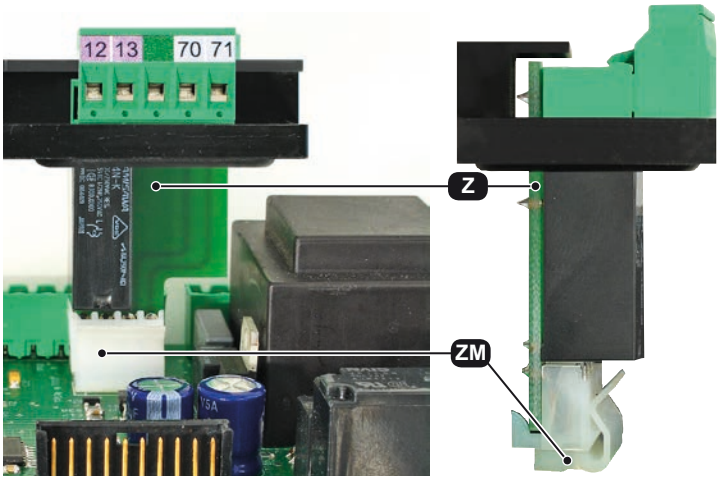
PULL T15: depth of ground plate = 12mm



We reserve the right to change dimensions and technical specifications without prior notice.

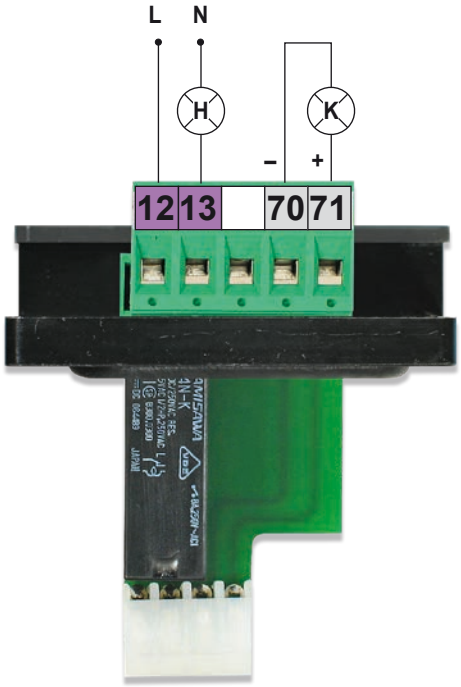
- The use of one of the addtional modules is optional.
- Depending on which device, e.g. a Courtyard-/Control lamp is chosen or evaluation of gate status should be effected, the corresponding module **(Z)** has to be plugged to the according slot/plug **(ZM)** of control board.
- Additionally the corresponding value has to be selected in menu point „Additional module“.





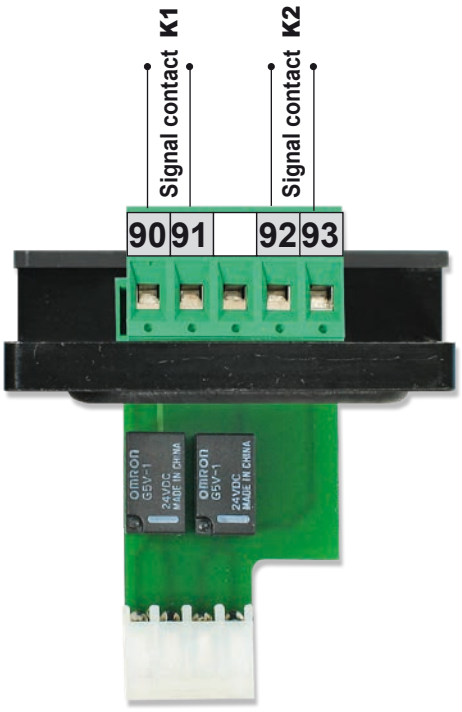
Additional module Courtyard lamp/Control lamp

- On the terminals 12/13 a courtyard lamp **(H)** can be connected: **230V, max. 100W**
- On the terminals 70/71 a control lamp **(K)** can be connected: **24Vd.c., max. 2W**



Additional module Gate status display

- With potential free signal contacts K1 (Kl. 90/91) and K2 (Kl. 92/93) the gate staturs can be evaluated in two ways *(see menu point „Additional module“)*.
- Contact load: **24Va.c./d.c., max. 10W**



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E_PULL-T8-T10-T15-M-S_ti_01
04. 09. 2018

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