WMD-05S Motorized swing gate

PERCo

+55
+1
temperature range

24V
operating voltage

W
60W
power consumption

2
passage directions

12
persons/min

mechanical unlocking

M
motor drive

Application

The WMD-05S swing gate is a normally closed electromechanical waist-high gate designed for indoor operation.

The delivery set includes a remote control (RC) panel. The orientation of RC-panel buttons relative to passage directions is set when connecting the panel to the turnstile. It is recommended to install swing gates assuming that the peak load amounts to 12 persons/min per device. The gates can come complete with railings produced in the same design.

RC panel

Operation modes

When operated via the RC panel, the swing gate supports three operation modes:

- passage denial
- single passage
- free passage

Main features

Mechanical unlocking with a key

- operation of the swing gate via its RC panel, WRC, or ACS
- the motor drive integrated in the gate post rotates the swing panel +/- 90° in the set passage direction and returns it smoothly to the initial position after passage
- standby power supply unit built into the control unit
- the Fire Alarm control input enables connection of a device that sends an emergency unlocking command (e.g., from the fire alarm system)
- the gate can be powered both by the 220 V AC / 50 Hz mains and an external 24 V DC power supply unit
- two control modes – pulse and potential
- integrated mechanical release lock
- possibility of connecting an intrusion detector and siren to the gate

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Design

Gate post – polished stainless steel.
Swing panel – stainless steel; filler panel – plastic panel with pictograms.

Swing panel type	Description
AG-650	650 mm swing panel
AG-900	900 mm swing panel
AG-1100	1100 mm swing panel

Operating conditions

In terms of resistance to environmental exposure, the WMD-05S swing gate post complies with GOST 15150, category U4 (indoor application). The WMD-05S swing gate may operate at an ambient air temperature from +1 °C to +55 °C and relative air humidity of up to 70% at +27 °C.

The remote control unit, with regard to resistance to environmental exposure, complies with category NF4 of GOST 15150 (operation in rooms with climate control). The control unit may operate at an ambient air temperature from +1 °C to +40 °C and relative air humidity of up to 80% at +25 °C.

The WMD-05S gate is serially produced and has a TR CU Certificate of Conformity (EAC).

Delivery set

Gate post	1
Swing panel with a set of clips; its type (650, 900, or 1100 mm) is to be selected by the customer when placing an order	1
Filler panel	1
RC panel (cable length of 6.6 m)	1
CU-05.1 control unit with two 7 A·h / 12 V batteries (mains cable length of 1.5 m)	1
Mounting kit for the control unit	1
Key to the mechanical release lock	2
Control cable (4 m*)	1
Power cable (4 m*)	1
Documentation set	1
Spare parts kit	1

Additional equipment (upon request)	
WRC (includes a receiver and two transmitters designed as radio fobs) with an operating range of up to 40 m	1
Intrusion detector	1
Siren (to signal unauthorized passage attempts)	1
M10 anchor with a bolt and washers	3

*The maximum allowable cable length amounts to 30 m (available upon request).

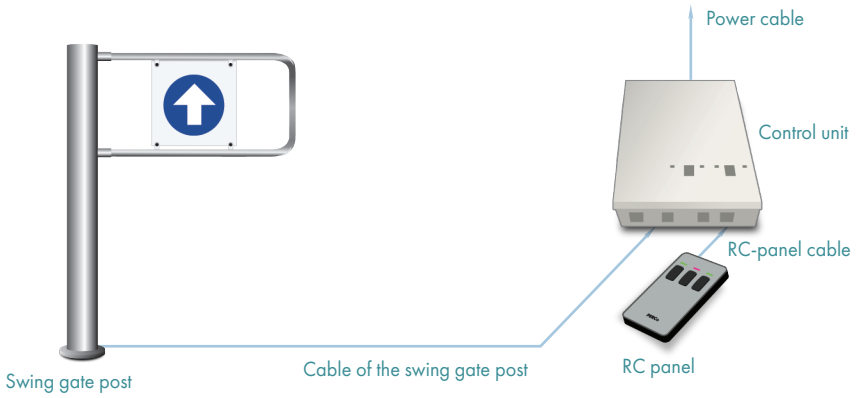
Technical specifications

Powered by the AC mains	Operating voltage	220±22 V, 50±1 Hz
	Power consumption	max. 60 W
Powered by an external DC power supply unit	Admissible values of the gate's operating voltage	22 – 28 V
	Consumption current	max. 2.0 A
	Power consumption	max. 50 W
Operating time when powered by a built-in standby PS unit		min. 1.5 hours

Passageway width	for a 650 mm swing panel	700 mm
	for a 900 mm swing panel	950 mm
	for a 1100 mm swing panel	1150 mm
Overall dimensions of the gate post (LxWxH)	with a 650 mm swing panel	773x145x1012 mm
	with a 900 mm swing panel	1023x145x1012 mm
	with a 1100 mm swing panel	1223x145x1012 mm
Weight of the gate post	max. 23.5 kg	
Overall dimensions of the control unit (LxWxH)	295x290x75.5 mm	
Weight of the control unit	max. 9.6 kg	
Packaging dimensions	Gate post with a control unit	108x36x31 cm
	650 mm swing panel	84x38x7 cm
	900 mm, 1100 mm swing panel	125x38x7 cm
Throughput rate	12 persons/min	
Number of passages when powered by a built-in standby PS unit	min. 1200	
Mean time to failure	min. 500 000 passages	

Connection

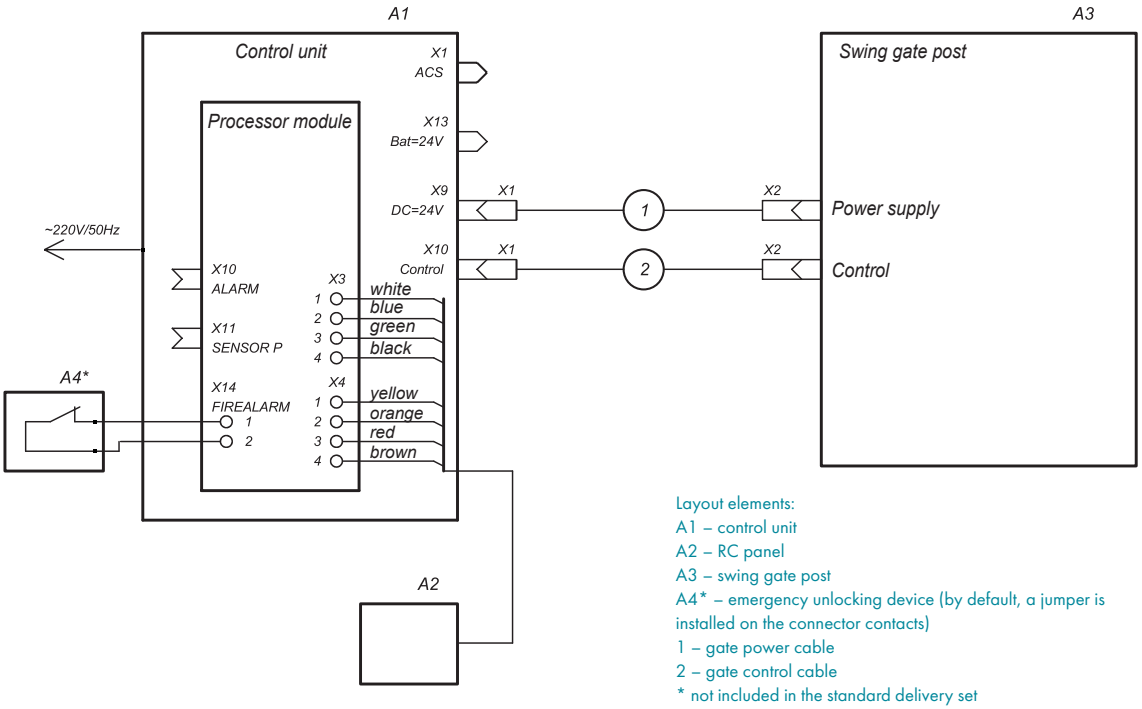
- Standalone operation – the swing gate is operated from the RC panel



Connection layout of the WMD-05S(SW) gate

The control panel is connected to the processor module board via the cable entry of the control unit. The orientation of RC-panel buttons relative to the location of the installed gate can be changed by swapping the RC-panel wires connected to the X3.1 and X3.3 processor module contacts, as well as to X4.1 and X4.3, respectively (see the electrical connection layout).

Pressing the left or right button of the RC panel opens the gate in the relevant direction. The swing gate will close automatically either in 5 seconds or upon pressing STOP (the middle RC-panel button). If the Passage Waiting Time jumper of the processor module is removed, 5 seconds are not counted down, and the gate will close only upon pressing STOP on the RC panel. By default, this jumper is installed.



Electrical connection layout of the WMD-05S swing gate

Operation of the swing gate as part of ACS – control lines are connected to the ACS connector of the control unit (the connector's mating part is included in the delivery set)

Description of ACS connector contacts of the control unit			
Connector	**Contact**	**Electrical circuit**	**Function**
«ACS»	1	RIGHT	Control of the R direction
	2	STOP	Blocking of both directions
	3	LEFT	Control of the L direction
	5	GND	Common
	7	PASS R1	Signal about passage in the R direction (relay contacts open upon passage in the R direction)
	10	PASS R2	
	6	PASS L1	Signal about passage in the L direction (relay contacts open upon passage in the L direction)
	9	PASS L2	
	8	Pwr failure C	Mains supply failure (C collector, E emitter of the optocoupler isolation circuit transistor)
	4	Pwr failure E	
	11	Pass Sensor1	Status of the intrusion detector, if installed (relay contacts)
	14	Pass Sensor2	
	12	Bat failure C	Failure of the standby power supply unit (C collector, E emitter of the optocoupler isolation circuit transistor)
	13	Bat failure E	

Operation algorithm

The swing gate supports two control modes, namely, pulse and potential ones. The control mode is selected with a jumper on the processor module of the control unit.

Pulse control mode.

The control is carried out by closing the RIGHT, STOP, and LEFT contacts with the GND contact or by sending a low-level input signal. A normally open relay contact or a circuit with an open collector output can serve as the ACS control element (the control signal must last for at least 100 ms).

Upon the control signal sent via the RIGHT or LEFT lines, the swing gate opens in the selected direction and remains open until one of the events (whichever occurs earlier):

- a low-level signal on the STOP line
- upon expiry of 5 seconds (if the Passage Waiting Time jumper is removed from the processor module, the unlocking time is not controlled)

The pulse mode is recommended for operation from the RC panel.

In the potential control mode, a control signal is sent to the RIGHT or LEFT input so that the swing gate opens in the selected direction and remains open for as long as the signal is held; the Stop input is not active in this mode.

The potential mode is recommended for the gate's operation via the ACS controller.

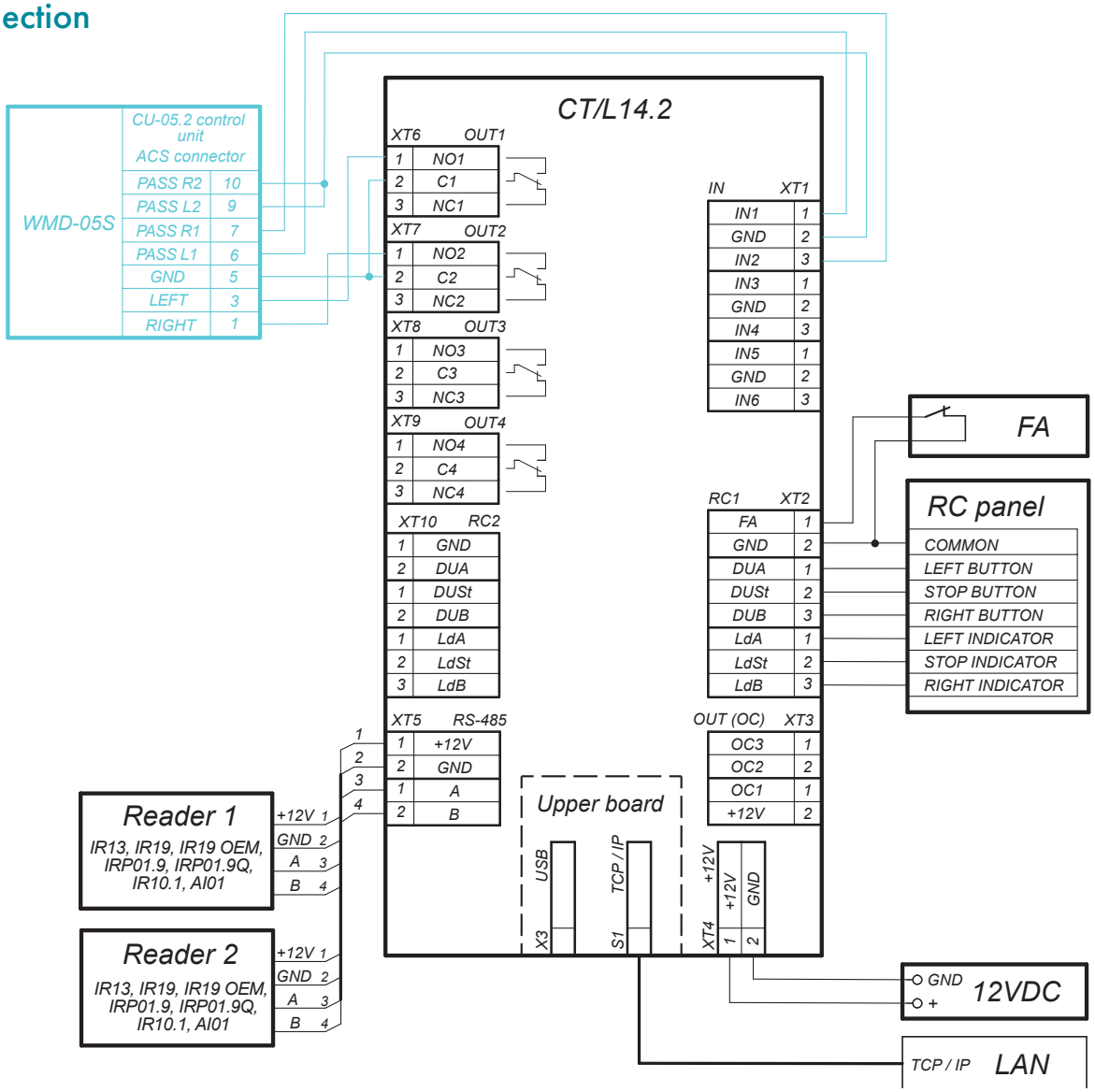
Regardless of the selected control mode, passage signals are generated when rotating the swing panel in either direction – PASS R or PASS L respectively. The duration of generated signals depends on the time during which the gate remains open.

The cable for connecting the emergency unlocking device is routed to the processor module via the ALARM cable entry of the control unit and connected to the relevant contacts of the processor module (see the electrical connection layout).

Note

When operating the swing gate via the ACS controller, it is recommended to connect the RC panel to the ACS controller.

ACS connection example

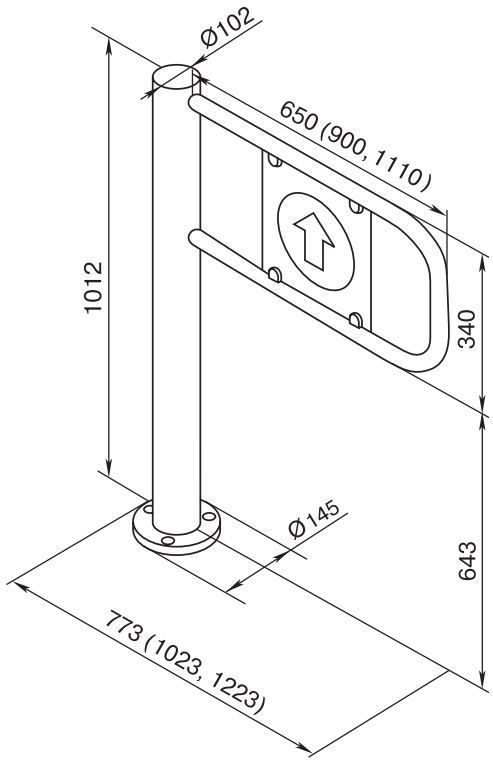


Example of connection of the swing gate to the ACS controller (exemplified by the CT/L14.2 controller)

The maximum allowable length of the cable from the RC panel / WRC / ACS controller to the control unit amounts to 30 meters.

The maximum allowable length of the power and control cables from the control unit to the gate post amounts to 30 meters.

Overall dimensions

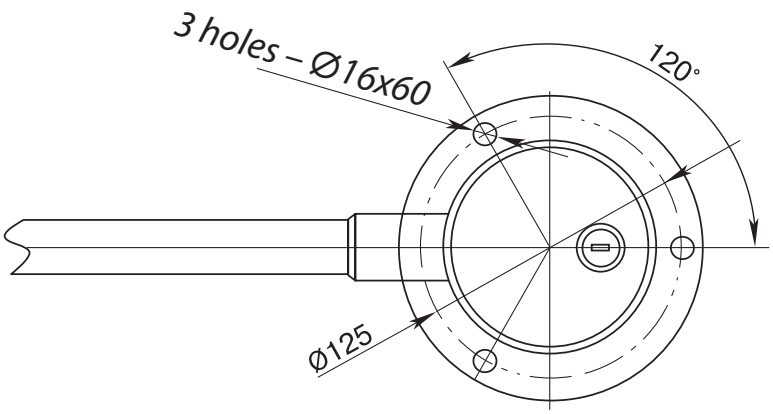


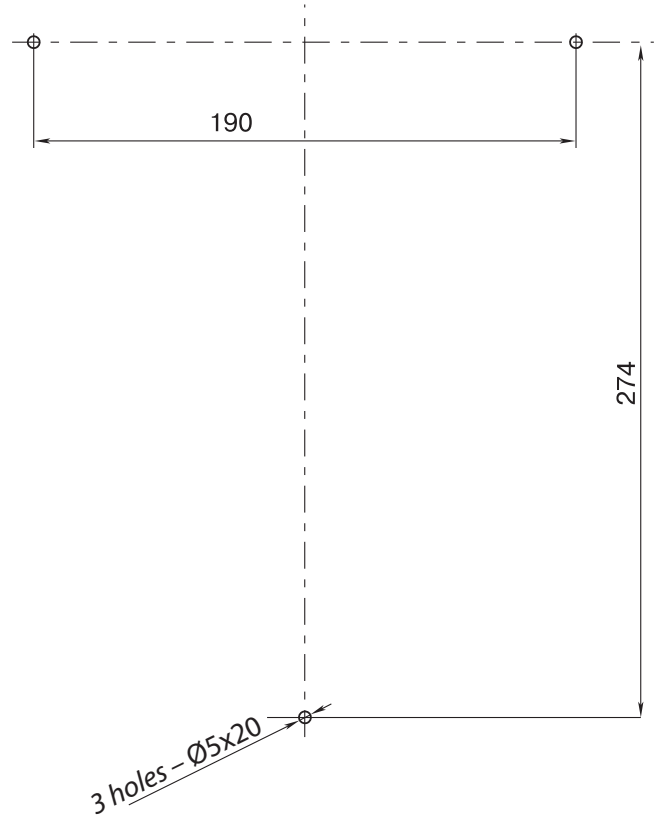
Overall dimensions

Installation

Foundation requirements: concrete (grade 400 or higher), stone, and similar foundations with a thickness of at least 150 mm. When installing the device on a less steady foundation, one should use a reinforcing element (450x450x200 mm).

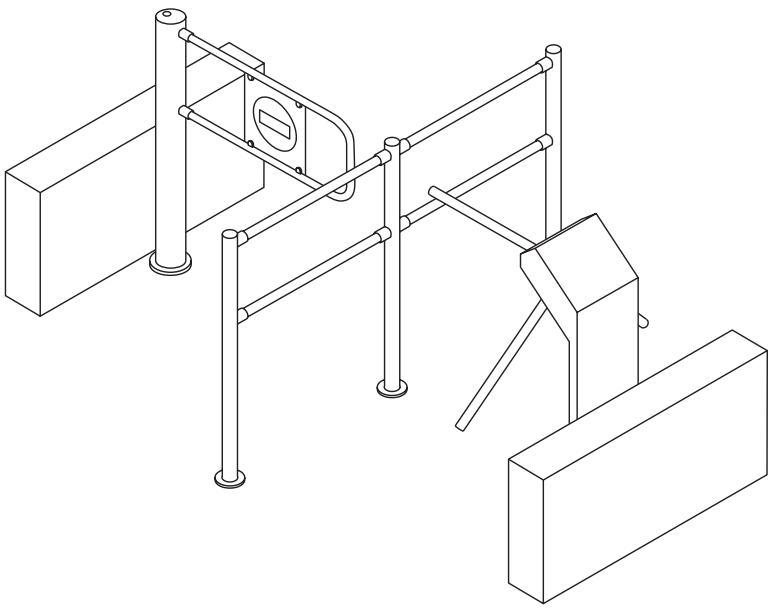
Hole marking layout for the swing gate





Hole marking layout for the control unit

Passage zone formation



Example of a checkpoint project

Warranty

The warranty period amounts to 5 (five) years commencing from the date of sale, unless otherwise stipulated in the product delivery contract. In case of sale and installation of the equipment by authorized PERCo dealers and service centers, the warranty may start from the date of commissioning.

If there is no date of sale in the warranty card, the warranty period shall commence from the date of manufacture specified in the Certificate and on the label of the product.