



## WMD-04S

### Electromechanical Wicket Gate for indoor application

#### Technical Specification



**Application:** This gate is ideal for indoor applications requiring free access in one direction and banned access in the other. Its elegant design presents a secure and stylish solution that can blend into entrances of office, shopping and showroom facilities, airports and other passenger terminals, etc.

**Function:** The WMD-04S wicket gate features three operating modes set from the remote control panel and is intended for bi-directional single or multiple passages. Passage can be controlled in either direction.

**Design:** The WMD-04S consists of a gate post, a swing panel with info sign, a remote control unit with a built-in standby power supply (SPS) and battery, a remote control panel and a set of cables. The gate post consists of a rotary post and a stationary post with flange. The swing panel can rotate 90° in both directions (180° gate configuration). A mechanical release lock on the rotary post cover is intended for unlocking the gate in emergency situations. The remote control unit (CU) is responsible for the gate powering and control.

**Control over Gate:** Control over the wicket gate can be carried out in either pulse or potential control mode. This alternative ensures correct operation of the WMD-04S in any existing access control system, allowing use of controllers with outputs supporting the potential control mode.



The gate can be operated:

- from the remote control panel or a wireless remote control (in the pulse control mode);
- from access control system (ACS) via a controller (in either pulse or potential control mode).

The WMD-04S is a normally closed (N/C) unit, i.e. the reset state of the wicket gate is "closed for entry and exit" (the swing panel is locked in the home position).

For convenience of people in wheelchairs, mothers pushing prams or shoppers carrying bulky goods, in the "Always free" passage mode the swing panel retains the open position all the time.

**Control Mechanism Components:** The gate post contains a rotor electric drive, an electromagnetic locking device, optical swing panel rotation sensors, bearing units, a power module and a cable connectors block:

- the electric drive opens the swing panel in the direction of permitted passage and ensures smooth automatic return of the swing panel to its home position after each passage;
- the optical rotation sensors track all real passage events through the wicket gate thus ensuring accurate data input into time and attendance systems;
- the power module controls the electric drive and transmits signals

- from the optical rotation sensors to the CU;
- the electromagnetic locking device safely secures the gate as the swing panel returns to its home position;
- the mechanical release lock enables to unlock the gate with a key in the event of emergency.

**Operation Principle:**

Upon receiving an appropriate signal from the access control system, the remote control panel or infrared sensors\*, the electromagnetic locking device unblocks the rotary post and the swing panel rotates 90° in the direction of permitted passage.

At the end of the passage waiting time the rotor electric drive realizes smooth automatic return of the swing panel to its secured home position.

\* only infrared sensors with normally open contacts are suitable (not included in standard delivery set)

**Operating Modes:**

One of the following operating modes can be set from the remote control panel:

- single passage in the set direction (the gate is open for one passage in the permitted direction);
- always free (the gate is open for entry and exit);
- always locked (the gate is closed for entry and exit).



**Interface:**

The gate post, the control unit (CU) and the remote control panel /ACS controller are connected by cables.

The WMD-04S is operated by control electrical signal from the remote control panel (ACS controller) received on the contacts of the corresponding CU connectors.

The control unit is a stand-alone device in a metal case with pull-resistant fasteners for wall mounting. The CU can also be desk-mounted.

The CU case contains a power transformer, a DC power supplies module, a processor module and two 12V SPS batteries.

The control over the wicket gate is carried out by the CU processor module.

The processor module board accommodates:

- jumpers for control mode setting (pulse or potential);
- outputs for connection of an intrusion detector and a siren;
- jumpers for passage waiting time adjustment.

The control unit has galvanic decoupling of the outputs to ensure noise-immunity of the gate electronics.

The CU electronics are protected against short circuits, overloads and polarity inversion.

**Timeout Facility (timed re-lock):**

The WMD-04S has a preset timeout period (the passage waiting time) when the gate is unlocked for a passage in the permitted direction. A timed auto re-lock if the passage has not begun over this period is a standard feature.

The wicket gate has a preset passage waiting time of 3 sec, counting from the moment the swing panel has turned 90°.

There is no such counting in the "Always free" passage mode - the gate remains open until a command to close is received from the remote control panel.

The operating mode "Single passage in the set direction" allows for choice of the passage waiting time between 3 sec., 4 sec., 5 sec. and infinite interval, the adjustment being carried out by installation of jumpers on the processor module.

**Power Failure:** The gate can be powered from both 220V / 50Hz AC mains power supply or an external power supply unit via the "Bat=24V" connector on the CU

lower panel.

In case of AC mains failure the gate remains in operation, the control unit switches to:

- the SPS battery (included in the standard delivery set), when the gate is powered from 220V / 50Hz AC; operation time with the fully charged SPS battery is no less than 90 min or 1,200 passages;
- the in-built battery of an 24V DC external uninterruptible power supply (UPS) (not included in the standard delivery), with hours of service depending on the built-in battery capacity.



At the SPS battery discharge down to  $20 \pm 0.5V$  the gate switches to the malfunction mode: the swing panel returns to the home position where it gets locked; any setting of the operating modes from either the remote control panel or ACS is blocked.

If the battery voltage falls below the given 20V threshold, the CU will automatically switch off.

When the AC mains is restored, the gate returns to normal operation, with automatic recharging of the SPS battery.

**Key Override Control:** The key override allows mechanical unlocking of the gate in the event of emergency or malfunction (e.g. outage of the external power supply or SPS battery discharge below 20V) by means of a mechanical release key. The mechanical release lock is built in the gate post as standard and provided with a set of keys. When unlocked, the swing panel could be easily turned in each direction and left open.

**Materials and Finishes:**

Gate post:	brushed stainless steel
Swing panel frame:	32 mm tube of brushed stainless steel AISI 304
Filler panel:	double-sided info sign, reinforced plastic

#### Technical Specifications:

Control unit power supply:	
- AC mains	- 220V/50 Hz
- External power supply	- 24 V DC
Operational voltage	24 V DC
Throughput rate (in the single passage mode)	12 persons/min
Overall dimensions (H x W x D)	1016 x 701 x 140 mm
Passage width**	700 mm
Operating temperature range:	
- the gate	+1°C to +45°C
- the control unit	+1°C to + 35°C

\*\* For wider passages extended swing panel up to 800 mm is available at extra charge.

**Transportation and Storage:** The wicket gate in the original package should be transported only in closed freight containers or other closed type cargo transport units. During storage and transportation the boxes can be stacked no more than 3 layers high.

**Installation:** It is recommended to install the gate on a steady and level concrete floor (grade 400 or higher) or another firm foundation at least 150 mm thick. The installation should be performed only by qualified personnel, in strict accordance with the manufacturer's instructions (supplied with the gate), general electrical safety requirements and installation drawings.

**Warranty:** The manufacturer guarantees the WMD-04S wicket gate complies with applicable statutory safety and electromagnetic requirements provided that the instructions on storage, installation and operation are observed.

The warranty period is 12 (twelve) months commencing from the date of sale.

#### Installation Examples:



#### Standard Delivery Set:

- gate post
  - swing panel
  - info sign
  - control unit with built-in SPS and battery
  - remote control panel
  - mechanical release lock with set of keys
  - set of cables
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