



Control Units MAGTRONIC

MLC

Technical data:	Unit
Voltage (+/- 10%)	Volt
Frequency	Hertz
Max. Power consumption	Watt
Fuse	Value
Input	Amount
Output, open collector	Amount
Relay, centre-zero	Amount
Internal extension bus	Type
Display	Characters
Display	Languages
Detectors	max. number
Inductivity range	mH
Sensitivity	Steps
Selectable reaction sensitivity	%
Temperature range	°C
Protection type	IP
Weight	Gram
Dimension	L-W-H

* The barrier model MIB 20 can only be driven with the MLC 11 (exposed heat sink)

	MLC 10	MLC 11*
Voltage	100–240	100–240
Frequency	50–60	50–60
Max. Power consumption	20	20
Fuse	F4A H	F6.3AH
Input	5	5
Output, open collector	2	2
Relay, centre-zero	2	2
Internal extension bus	I ² C	I ² C
Display	16	16
Display	D-E-F	D-E-F
Detectors	2	2
Inductivity range	70–500	70–500
Sensitivity	10	10
Selectable reaction sensitivity	0.01–2	0.01–2
Temperature range	0–55	0–55
Protection type	20	20
Weight	950	1,050
Dimension	200 x 75 x 118	200 x 75 x 118

The MLC Control device

The MLC (Magnetic Lane Controller) was especially developed as a dedicated control unit for the new generation MIB 20-30-40 barriers and is based on the most modern microprocessor technology. Many years of experience have come together to form the design of the hardware and software.

Tried and tested functions have been borrowed from the well-known MCU and MUB control units, which have been extended by the addition of a 16 digit display, two loop detectors and a PC bus interface.

This interface permits communication with the new Magnetic I/O box and with other interface modules (RS485).

The associated barrier motor is driven by a solid stages, triac output stage, thus eliminating any contact fatigue.

The integrated universal electronic power supply is of particular advantage as it offers a voltage range of 100–240 V at 50-60 Hz.

A special barrier angle sensor is mounted on the drive shaft of the barrier motor, which communicates the exact boom position to the MLC control device. This removes the need for the limit switches which are normally necessary to communicate the angle of the barrier boom and for the switches which normally activate the electronic braking mechanism. The combination of the

sensor and braking parameters programmed into the MLC guarantee the optimum braking characteristics every time for all types of barrier.

It is especially important in the case of rapid barrier movements that the centrifugal mass is arrested before the end position is reached. This results in substantially less wear to the gears which guarantees a high mechanical service life. Any bouncing of the barrier boom in the end positions is also eliminated. Following any power interruption, the control unit recognises the position that the barrier currently has. Depending on the parameters which have been loaded, the control unit reacts in one of three ways: open, retain position, or close.

A large number of customer suggestions have been integrated in the basic software PLC 1005-xxxx.

- max. 2 loop detectors
- direction recognition, park difference calculation
- reset function upon current return
- safety loop cut-out
- traffic light control
- feedback info whether OPEN or CLOSED
- service hour counter
- barrier opening cycle counter

Overview

The control unit is built into a plastic box. The two removable terminal strips allow a simple and quick mounting or disassembly of the unit. The box is clipped directly onto a standard DIN rail.

The 16 digit display is clear and easy to read. With the rotary switch and two input keys, the control unit can be easily reprogrammed.

Software

The basic software package with the PLC 1005-X0000 parameter set offers a great range of programming possibilities. The following functions and variables can be selected and changed very simply using the rotary switch and the two keys:

- language
- barrier type
- MUB only function (spare)
- self-learning mode – reference swing
- operating mode 1–8
- loop disconnection via the boom angle (safety)
- duration of open phase
- torque period
- loop active yes/no
- loop function
- loop sensitivity
- relay switching function
- default set

User instructions are given in the display in the desired language.

To aid servicing, the following information can be displayed:

- number of barrier opening cycles
- service hour counter
- error diagnosis

Extended functions are available from us. These parameter sets are either supplied factory-programmed or as compact parameter 'smart cards'. The new parameters can be loaded into the MLC control unit via the PC bus without having to open the device. The great advantage of this is that only one control unit equipped with the basic software is needed for all functions. This keeps the costs arising from keeping spare parts to a minimum.



Detector

Depending on the parameter set in use, up to two induction loops can be connected to the MLC control unit. The loop sensitivity is adjustable over ten steps per detector channel.

The loop frequency of the selected channel is shown in the display in Hz. The loop functions can be selected from:

- off
- safety
- presence
- open
- impulse service
- constant service

If the MLC is to be used as a replacement for an MUB, this can be selected via the main menu. The MLC will then be 100% compatible with the original MUB-100.

Inputs

The 5 opto-decoupled inputs fulfil the following functions using the standard parameter set:

- Input 1 = external open
- Input 2 = open priority
- Input 3 = external close
- Input 4 = no function
- Input 5 = photoelectric barrier

Outputs

Two open collector outputs (24V DC) for open/closed status information are provided for the purpose of controlling the external Magnetic control panel.

- Output 1 = barrier open
- Output 2 = barrier closed

Center-zero multifunctional relay

Maximum load = 250V AC / 3A.

- Relay 1 = open sliding door or detector function channel A
- Relay 2 = counting impulse or detector function channel B

Further functions are available for all inputs and outputs from additional PLC1005-xxxx parameter sets.

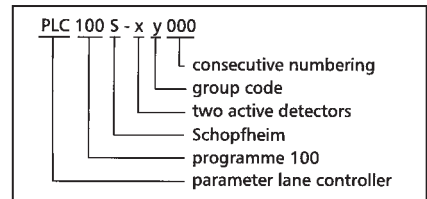
Parameter Set

The desired basic parameters are activated within the parameter set, which at the same time determines the function of the control unit. The parameter sets can also be supplied in smart cards.

Extensions

If the number of inputs and outputs is insufficient for complex applications, the Magnetic I/O box can be connected via a flat band cable. This box is always required for the park differential counting function.

The external Magnetic control panel with manual control and the open/closed status display can also be connected to the MLC.



Certification:

In accordance with requirements for the CE symbol
DIN guidelines including EN 50 204, EN 292, EMV
Magnetic is certified to ISO 9001.

