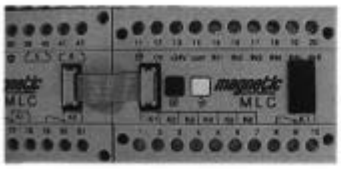
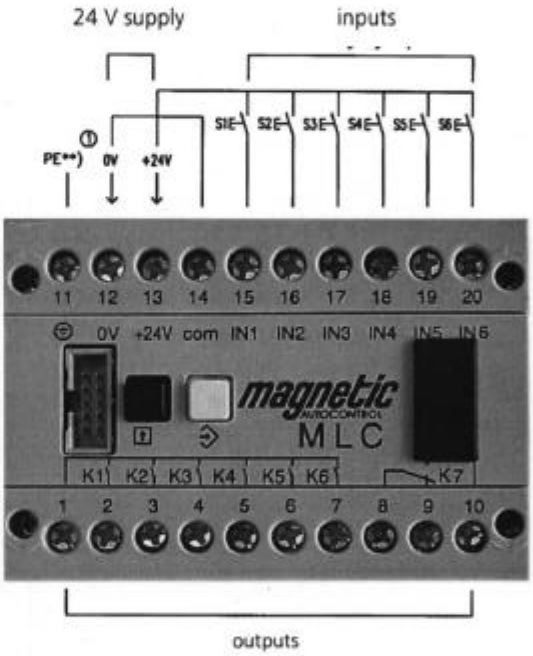
Extension unit (IO box) MLC 30



The following additional functions are possible with the extension unit MLC 30:

- Additional inputs/outputs for operating the barrier in a superior system, e.g. car park system
- Parking lot counting with control of a changing traffic sign or similar
- Counter-flow traffic light control for single-line traffic
- Special functions



S1 Counter "+"
S2 Counter "-"
S3 Counter "Reset"
S4
S5
S6 Feedback roller door open

K1 Detector B (permanent contact)
K2 Detector A (permanent contact)
K3 Feedback OPEN / counter "+"
K4 Feedback CLOSED / counter "-"
K5 Beam impact
K6 Feedback occupied
K7 Changing traffic sign

24V/1A
230V/3A

*) Function according to set operating mode see operating manual
**) PE connection to terminal next to control unit cord
... 2.5 mm², max. 200 mm long

Parking lot counter

Meaning
When using the extension unit MLC 30, parking lot counting is possible, among others.
Parking lot counting can be programmed for various different applications by a technician on the spot.
The programming consists of keying in a figure value (see following description), the so-called counter mode.

These applications are as follows:

Simple differential counting for car park with separate entrance and exit
Here as a rule the control in the entrance barrier assumes the "master function*", the control in the exit barrier assumes the "slave function**". Incoming vehicles are subtracted and outgoing vehicles are added. All vehicles passing the barriers are counted.

Counting mode master:	129
Counting mode slave:	130

Simple differential counting with direction recognition via induction loop for entrance and exit using the same lane
Direction detection takes place using the two integrated loop detectors A and B. Please note that in the setting "Detector mode B" for the loop B the setting "entrance loop" or "exit loop" has been correctly selected according to the arrangement.
Incoming vehicles are subtracted, outgoing vehicles are added.
All vehicles passing the barriers are counted.

Counting mode master:	65
Counting mode slave:	66

Selective differential counting for car park with separate entrance and exit
Here as a rule the control in the entrance barrier assumes the "master function*", the control in the exit barrier assumes the "slave function**".
Incoming vehicles are subtracted, outgoing vehicles are added.
Only those vehicles are counted for which the barrier is opened via the opening pulse IN 1, opening pulse IN 4 or the switchboard. If the barrier is opened by the superior opening pulse IN 2, the subsequent passage through the barrier is not counted.

Counting mode master:	161
counting mode slave:	162

Caution!
No automatic opening loops may be used at all in counter applications with selective counting.

Simple differential counting with direction recognition via induction loop for entrance and exit using the same lane
Direction detection takes place using the two integrated loop detectors A and B. Please note that in the setting "Detector mode B" for the loop B the setting "entrance loop" or "exit loop" has been correctly selected according to the arrangement.
Incoming vehicles are subtracted, outgoing vehicles are added.
Only those vehicles are counted for which the barrier is opened via the opening pulse IN 1, opening pulse IN 4 or the switchboard. If the barrier is opened by the superior opening pulse IN 2, the subsequent passage through the barrier is not counted.

Counting mode master:	97
Counting mode slave:	98

Caution!
No automatic opening loops may be used at all in counter applications with selective counting.

*Master control

In the master control, the counter is integrated. All vehicles passing through when the barrier is open are registered by the counter. The counter works as parking lot counter. The displayed value corresponds to the number of free lots. This means: "incoming vehicles are subtracted, outgoing vehicles are added.
In addition, it is possible to change the counter value via pulse inputs on the extension unit. These pulse inputs also process the signals of the slave control(s). The counter can pass below the value 0. In this case the number is shown with a minus sign and flashes.
For counter values </= 0, 2 relay outputs are activated. Here a changing traffic sign can be activated, or another occupied signal. At the same time, the barrier can be prevented from opening any more via an opening pulse at IN 1, switchboard and exit opening loop.
Opening loops at IN 2 and IN 4, and the exit opening loop are still active.

** Slave control

The slave control informs the master control about potential-free pulse contacts when a vehicle passes the barrier.

Counter configuration

Adjusting the counter mode

Please proceed as follows:

1. Switch the knob on the front panel of the control unit to position A.

Example:
Display | Counter mode 000 |

2 Press the black and white key at the same time.
The cursor now appears

Display: | Counter mode 000 |

3. Press the black key to adjust the figure to the required value.
for example:

Display : | Counter mode 100 |

Acknowledge with the white key. At the same time the cursor is moved one digit over to the right. Adjust the other digits in the same way. After acknowledging the last digit, the following display appears:

Display | Sichern Y=|| N= =>? |

4. Confirm with the black key or abort with the white key. If you confirm the inputs , the control automatically proceeds with a reset.

5. Important! After completing all adjustments, turn the knob back to position 0.

Adjusting the number of parking lots (only for master control).

Meaning:
The counter registers the number of free parking lots. When the car park is empty, the maximum number of available parking lots must be displayed. The counter cannot exceed this value. In addition, in this way automatic correction of the counter is possible in times in which the car park is sure to be empty, by placing a signal at input IN 3 of the extension unit.
For example, by using a timer it is possible to reset the counter for a customer car park at a shopping centre at midnight each time. The counter then starts again next morning with the maximum value when the car park is empty.

Proceed as follows:

1. Turn the knob on the front plate of the control unit to position 0
   Example:
   Display : 5 00001 ↑ 0 0 ☒ ☐

2. Press the black key of the extension unit (possibly repeatedly) until the display shows the following:
   Example:
   Display : Parking lot quantity 0025

3. Press the black and white key of the extension unit at the same time. The cursor now appears under the figure shown on the left.

   Display : Parking lot quantity 0025

4. Press the black key to adjust the figure to the required value

   For Example:
   Display : Parking lot quantity 1025

Acknowledge with the white key. At the same time the cursor is moved one digit to the right. Adjust the other digits in the same way. After acknowledging the last digit, the cursor disappears. The inputs are final.

Leave the adjusting mode again by pressing the white key.
Press the black key to move on to the next adjustment of the extension unit.

Adjusting/reading the counter status

(only for master control)

Meaning:
In this setting you can read the actual occupation of the car park and correct if necessary.

Proceed as follows:

1. Switch the knob on the front panel of the control unit to position 0..

Example:
Display: 5 00001 ↑ 0 0 ☒ ☐

2 . Press the black key of the extension unit (possibly repeatedly) until the display shows the following:
Example:
Display : Counter 1 0025

3. You can now correct this value by pressing the black key (+) or white key (-). Please note that the value cannot go above the value previously programmed in the setting parking lot quantity 1.
It is however possible to adjust a value < 0.

Display : Counter 1 0022

Leave the adjusting mode again by pressing the white key.
Press the black key to move on to the next adjustment of the extension unit.

Reading the input/output statuses of the extension units.

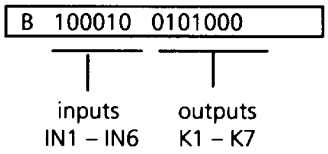
Meaning:
The current logical condition of the inputs and outputs of the extension unit can be shown in the display. These statuses can only be read and not altered.

Proceed as follows:
1. Turn the knob on the front of the control unit to position 0.

Example:
Display :

2. Press the black key of the extension unit (possibly repeatedly) until the display shows the following

Example:
Display :



The illustrated example shows that IN 1, IN 5, K2 and K4 are active.

Leave the adjusting mode again by pressing the white key.
Press the black key to move on to the next adjustment of the extension unit.