

L8542371  
Rev. 07/05/00

# **BENINCA®**

CENTRALE DI COMANDO  
**CONTROL UNIT**  
*STEUEREINHEIT*  
**CENTRALE DE COMMANDE**  
CENTRAL DE MANDO  
**CENTRALKA STEROWANIA**

**CP.K3-RE**  
**CP.K3-RI**  
**CP.K4-RE**  
**CP.K4-RI**

Libro istruzioni  
**Operating instructions**  
*Betriebsanleitung*  
**Livret d'instructions**  
Manual de instrucciones  
**Książeczka z instrukcjami**



UNIONE NAZIONALE COSTRUTTORI  
AUTOMATISMI PER CANCELLI, PORTE,  
SERRANDE ED AFFINI

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**Dichiarazione CE di conformità**  
**EC declaration of conformity**  
**EG-Konformitätserklärung**

**Déclaration CE de conformité**  
**Declaracion CE de conformidad**  
**Deklaracja UE o zgodności**

Con la presente dichiariamo che il nostro prodotto

We hereby declare that our product

Hiermit erklaren wir, dass unser Produkt

Nous déclarons par la présente que notre produit

Por la presente declaramos que nuestro producto

Niniejszym oświadczamy że nasz produkt

**CP.K3-RE / CP.K3-RI / CP.K4-RE / CP.K4-RI**

è conforme alle seguenti disposizioni pertinenti:

complies with the following relevant provisions:

folgenden einschlagigen Bestimmungen entspricht:

correspond aux dispositions pertinentes suivantes:

satisface las disposiciones pertinentes siguientes:

zgodny jest z poniżej wyszczególnionymi rozporządzeniami:

Direttiva sulla compatibilità elettromagnetica (89/336/  
CCE, 93/68/CEE)  
EMC guidelines (89/336/EEC, 93/68/EEC)  
EMV-Richtlinie (89/336/EWG, 93/68/EWG)  
Directive EMV (89/336/CCE, 93/68/CEE) (Compatibilité  
électromagnétique)  
Reglamento de compatibilidad electromagnética (89/336/  
MCE, 93/68/MCE)  
Wytyczna odnośnie zdolności współdziałania elektromagne-  
tycznego (89/336/EWG, 93/68/EWG)

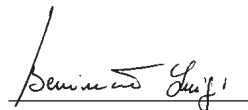
Norme armonizzate applicate in particolare:  
Applied harmonized standards, in particular:  
Angewendete harmonisierte Normen, insbesondere:  
Normes harmonisées utilisées, notamment:  
Normas armonizadas utilizadas particularmente:  
Normy standard najczęściej stosowane:

EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3

Direttiva sulla bassa tensione (73/23/CEE, 93/68/CEE)  
Low voltage guidelines (73/23/EEC, 93/68/EEC)  
Tiefe Spannung Richtlinie (73/23/EWG, 93/68/EWG)  
Directive bas voltage (73/23/CEE, 93/68/CEE)  
Reglamento de bajo Voltaje (73/23/MCE, 93/68/MCE)  
Wytyczna odnośnie niskiego napięcia (73/23/EWG, 93/  
68/EWG)

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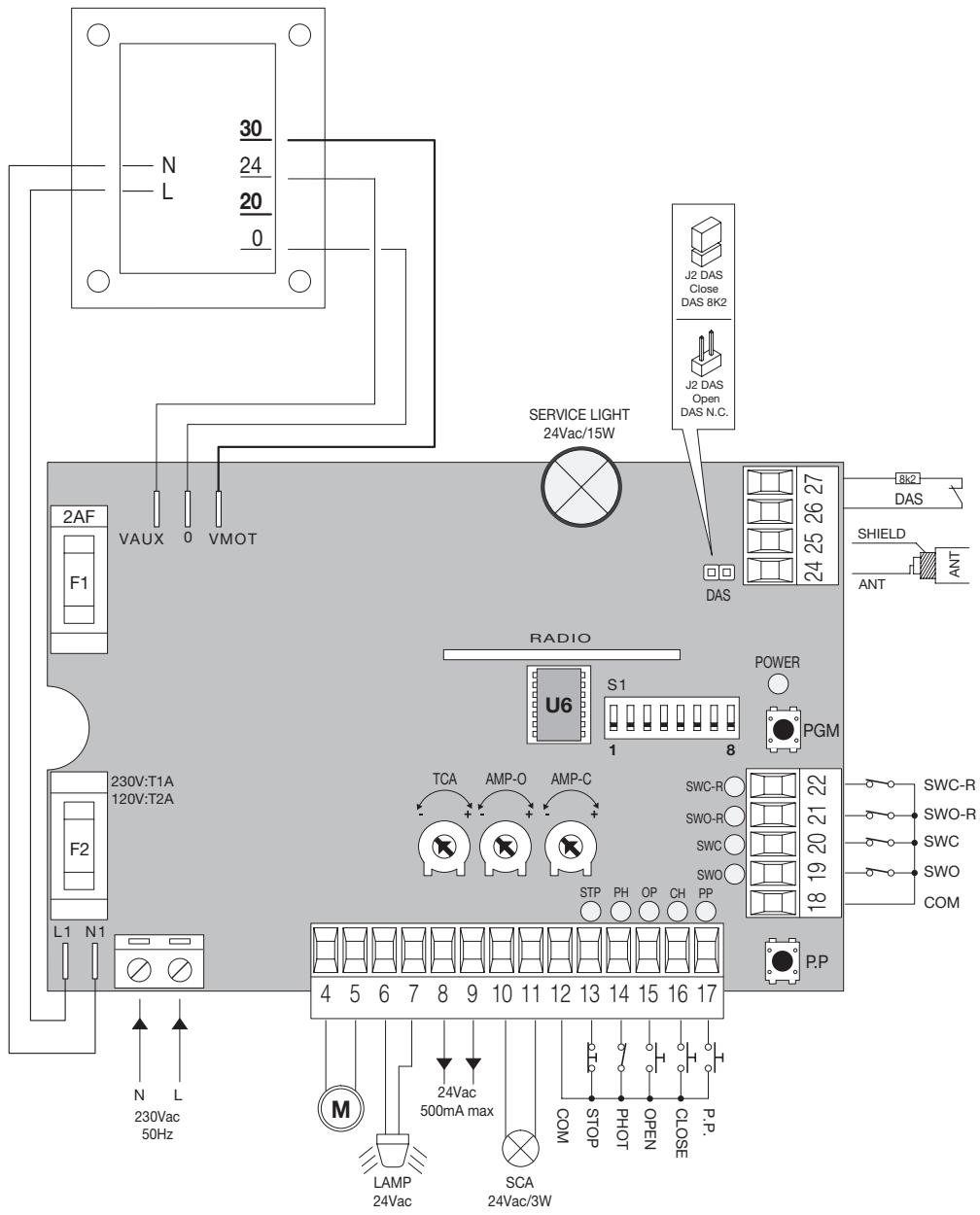
EN 60204-1, EN 60335-1



Benincà Luigi, Responsabile legale.  
Sandrigo, 05/04/2004.

**BENINCA®**

Automatismi Benincà Srl  
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ITALIA



## Control units CP.K3-RE / CP.K3-RI / CP.K4-RE / CP.K4-RI

Control units for 24Vdc motors with powers under 120W.

### GENERAL RULES

- a) The electrical installation and operating logic must comply with statutory regulations.
- b) Cables of different voltages must be physically separated or otherwise adequately screened with secondary insulation of at least 1 mm.
- c) Cables must be secured by additional clamps next to their terminals.
- d) Control all wiring connections are correct before powering.
- e) Check the Dip-Switch settings are correct.
- f) Unused N.C. inputs must be jumpered.

### INPUT/OUTPUT FUNCTIONS

| Terminals   | Function        | Description   |
|-------------|-----------------|---|
| 1-2         | Power           | 230Vac 50Hz input (1-Neutral/2-Live)  |
| 4-5         | 24Vdc motor     | 24Vdc motor connection  |
| 6-7         | Beacon          | 24Vac max 40W beacon connection   |
| 8-9         | 24 Vac          | 24Vac/max 0.5A accessory power connection   |
| 10-11       | SCA             | 24 Vac connection for gate open light – max 3W  |
| 12          | COM             | Common for all control signal inputs.   |
| 13          | STOP            | STOP button input (N.C. contact)  |
| 14          | PHOT            | Safety input, N.C. contact (e.g. photocells)<br>During closing: when the contact opens the motor is stopped and the stroke direction is reversed immediately (i.e. opening).<br>During opening: disabled.   |
| 15          | OPEN            | OPEN button input (N.O. contact)  |
| 16          | CLOSE           | CLOSE button input (N.O. contact)   |
| 17          | PP Step-by-step | Step-by-step button input (N.O. contact)  |
| 18          | COM             | Common connection for travel limit switches.  |
| 19          | SWO             | OPEN travel limit switch input (N.C. contact).  |
| 20          | SWC             | CLOSE travel limit switch input (N.C. contact). When the SWC limit switch trips the motor continues running for 1.5 sec (with no Proximity signal) to make sure the gate is firmly shut.  |
| 21          | SWO-R           | Open slowdown travel limit switch input (N.C. contact).<br>When this contact opens it starts the open slowdown cycle.   |
| 22          | SWC-R           | Close slowdown travel limit switch input (N.C. contact).<br>When this contact opens it starts the close slowdown cycle.   |
| 24-25       | Antenna         | Plug-in radio receiver antenna board connections (24-signal/25-screen).   |
| 26-27       | EDGE            | Edge contact input<br>Electric edge: Jumper "DAS" bridged<br>Mechanical edge: Jumper "DAS" open<br>If the edge trips during opening the gate stops. If the gate is closing it will change direction to open for 3 sec.<br>Edge not used: Jumper "DAS" open and jumper across terminals 26-27. |
| J2          | Radio receiver  | Socket for two channel radio receiver ("RE" versions)<br>The RI versions have a built-in radio receiver   |
| VAUX-0-VMOT | Secondary       | Terminal for secondary circuit of transformer   |
| L1-N1       | Primary         | Terminal for primary circuit of transformer   |

### Trimmer functions

|              |   |
|--------------|---|
| <b>TCA</b>   | Adjustment of the automatic close time if enabled by Dip-Switch 1.<br>Adjustment ranges from <b>1 sec</b> to max <b>90 sec</b>  |
| <b>AMP-O</b> | Adjustment of the amperometric sensor obstacle detection sensitivity during the open cycle.   |
| <b>AMP-C</b> | Adjustment of the amperometric sensor obstacle detection sensitivity during the close cycle.<br><b>Adjustment of trimmers AMP-O and AMP-C must comply with statutory regulations.</b><br>If an obstacle is detected:<br>When opening, the gate is stopped.<br>When closing, the gate stops and opens for about 3 sec. |

### Dip-Switch functions

|                          |  |
|--------------------------|--|
| <b>DIP 1 "TCA"</b>       | Enables or disables automatic closing.<br>Off: automatic closing disabled<br>On: automatic closing enabled   |
| <b>DIP 2 "PRELAM."</b>   | Enables or disables pre-flashing<br>Off: Pre-flash disabled<br>On: Pre-flash enabled. The beacon flashes for 3 sec before the motor starts.  |
| <b>DIP 3 "UP"</b>        | Enables or disables the "Manned" function<br>Off: Manned function disabled.<br>On: Manned function enabled.<br>Only the OPEN/CLOSE controls are enabled: these buttons must be kept pressed throughout the whole cycle (i.e. direct control of gate actions).<br>PHOT and P.P. inputs and PROXIMITY disabled.<br>Amperometric sensor and STOP enabled.   |
| <b>DIP 4 "P.P. Mod"</b>  | Selects the operating mode for the " P.P. button" and the transmitter.<br>Off: operating sequence: OPEN > STOP > CLOSE > STOP ><br>On: operating sequence: OPEN > CLOSE > OPEN >   |
| <b>DIP 5 "Fast AMP "</b> | Enables or disables the rapid amperometric function.<br>Off: in the close cycle the amperometric sensor detects the speed of variation in current, regardless of the threshold adjustment by the trimmer, and reacts rapidly to an obstacle.<br><i>This function raises the sensitivity of the amperometric sensor, increasing the safety of the gate automation.</i><br><i>To use this function the gate has to be perfectly balanced and routinely checked to avoid false sensor trips.</i><br>On: Function disabled. The reaction time of the amperometric sensor when an obstacle is detected is normal. |
| <b>DIP 6 "COND."</b>     | Enables or disables the high traffic function.<br>Off: High traffic function disabled.<br>On: High traffic function enabled. The P.P. (Step-by-step) or transmitter signal is ignored during the open cycle and the TCA cycle (if enabled).  |
| <b>DIP 7 "SoftSTART"</b> | Enables or disables soft start function.<br>Off: Function disabled.<br>On: Function enabled. The first 3 sec of the stroke are at a slower speed. This avoids unduly stressing the mechanics.  |
| <b>DIP 8 "Radio"</b>     | Only for "RI" versions. Enables or disables transmitters with programmable codes<br>On: Radio receiver enabled exclusively for rolling-code transmitters.<br>Off: Receiver enabled for both rolling-code and programmable transmitters (self-learn and dip-switch) .   |

### Motor speed adjustment

**CAUTION! This adjustment strongly affects the safety of the gate automation.**

**Make sure that the gate thrust complies with statutory regulations.**

**If the gate speed is changed the amperometric sensor must be calibrated accordingly.**

The power transformer has a Faston connector (VMOT) which can be used to set the motor speed. The VMOT Faston is factory set on the 30V secondary circuit (i.e. high speed).

To reduce the speed set the VMOT Faston on 20V.

The 24V secondary circuit of the transformer is reserved for powering VAUX accessories.

By setting the VMOT Faston on 20V the motor speed is also reduced during the slowdown cycles.

### Diagnostic LED's

The control unit has a series of LED's to provide diagnostic information on the status of all the functions:

|                  |   |
|------------------|---|
| <b>POWER LED</b> | Blinks to signal the unit is powered                        |
| <b>STOP LED</b>  | ON when the STOP button is pressed                          |
| <b>PHOT LED</b>  | OFF when the photocells are not aligned or obstructed       |
| <b>OPN LED</b>   | ON when the OPEN button is pressed                          |
| <b>CLS LED</b>   | ON when the CLOSE button is pressed                         |
| <b>PP LED</b>    | ON when the PP (Step-by-step) button is pressed             |
| <b>SWO LED</b>   | OFF when the SWO open travel limit switch trips             |
| <b>SWC LED</b>   | OFF when the SWC close travel limit switch trips            |
| <b>SWO-R LED</b> | OFF when the SWO-R open slowdown travel limit switch trips  |
| <b>SWC-R LED</b> | OFF when the SWC-R close slowdown travel limit switch trips |

Before any action the control unit runs a check-up on its correct operation. If any error is found the motor is stopped and the Power LED blinks rapidly to signal there is a fault.

### Configuration with built-in receiver (only "RI" versions)

The control unit is fitted with a built-in radio module for receiving remote controls both with fixed codes and variable codes (see dip-switch 8 functions), with a frequency of 433.92MHz.

For a transmitter to be used, the module first has to self-learn its code. The memorise procedure is illustrated below, the module can memorise up to 64 different codes.

#### Memorising a new transmitter by activating the P.P. function

- Press the PGM button once for 1sec and the Power LED will start blinking at 1 sec intervals.
- Press the transmitter button within 10 sec to memorise with the P.P. (Step-by-step) function

To exit the programming procedure wait 10 sec or press the PGM button for 1 sec, the Power LED will return to normal blinking at 3 sec intervals.

#### labelling all transmitters from the memory

- Keep the PGM button pressed for 15 sec, the Power LED will start blinking rapidly and when it goes out the memory has been erased.
- Release the PGM button, the memory has been cancelled and the Power LED will return to normal blinking at 3 sec intervals.

#### N.B.:

The transmitters are stored on an EPROM (U6) memory board that can be removed and installed in a new control unit in case of breakdown.

For safety reasons, transmitters cannot be memorised during the open/close cycles of the motor.

When entering the memorise transmitter procedure, if the Power LED gives a prolonged blink and then goes out, this signals that the receiver memory is full and no other transmitters can be memorised or that the transmitter is not compatible.

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