



IS160 Rev.02 01/03/2017

EDGE1

centrale di comando per cancelli battenti

Istruzioni originali



IT - Istruzioni ed avvertenze per l'installatore - pag. 11

EN - Instructions and warnings for the installer - pag. 38

DE - Anweisungen und Hinweise für den Installateur - S. 65

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ES - Instrucciones y advertencias para el instalador - pág. 119

PT - Instruções e advertências para o instalador - pág. 146



Versione P3.00 - Release P3.00

IT

Questa versione contiene miglioramenti, ed include importanti aggiornamenti relativi alla sicurezza.

- Prima emissione.

EN

This version introduces improvements, and includes important new content regarding safety.

- First emission.

DE

Diese Version enthält Verbesserungen und umfasst wichtige Neuerungen zur Sicherheit.

- Erste Ausgabe

FR

Cette version contient des améliorations et inclut d'importantes mises à jour sur la sécurité.

- Première émission.

ES

Esta versión contiene algunas mejoras, actualizando asimismo varios aspectos concernientes a la seguridad.

- Primera emisión.

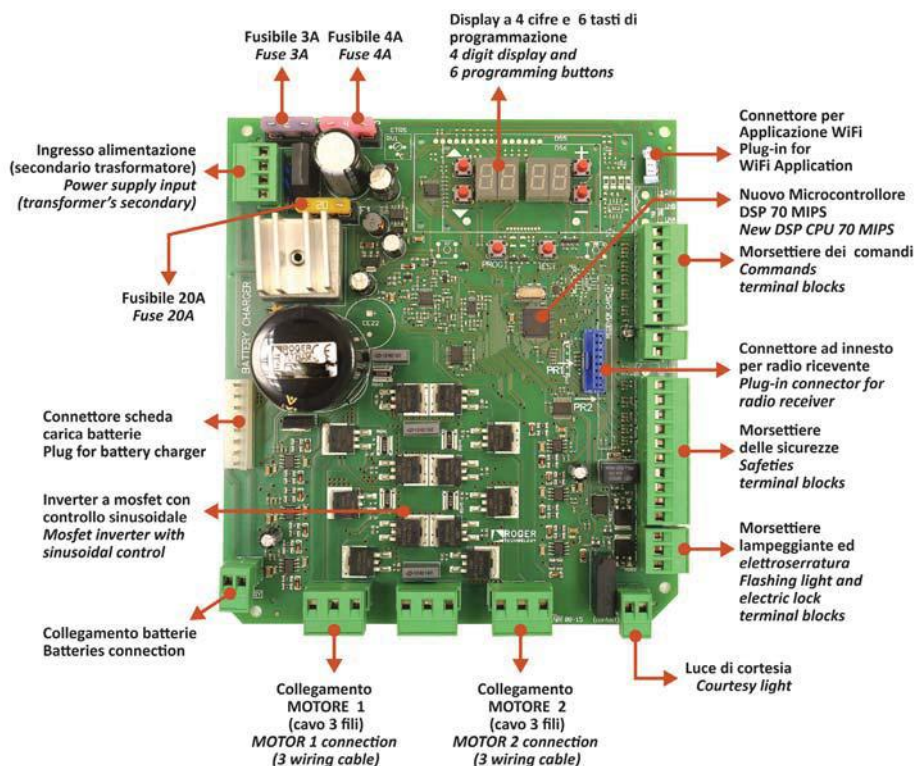
PT

Esta versão contém melhorias e inclui atualizações de segurança importantes.

- Primeira emissão.

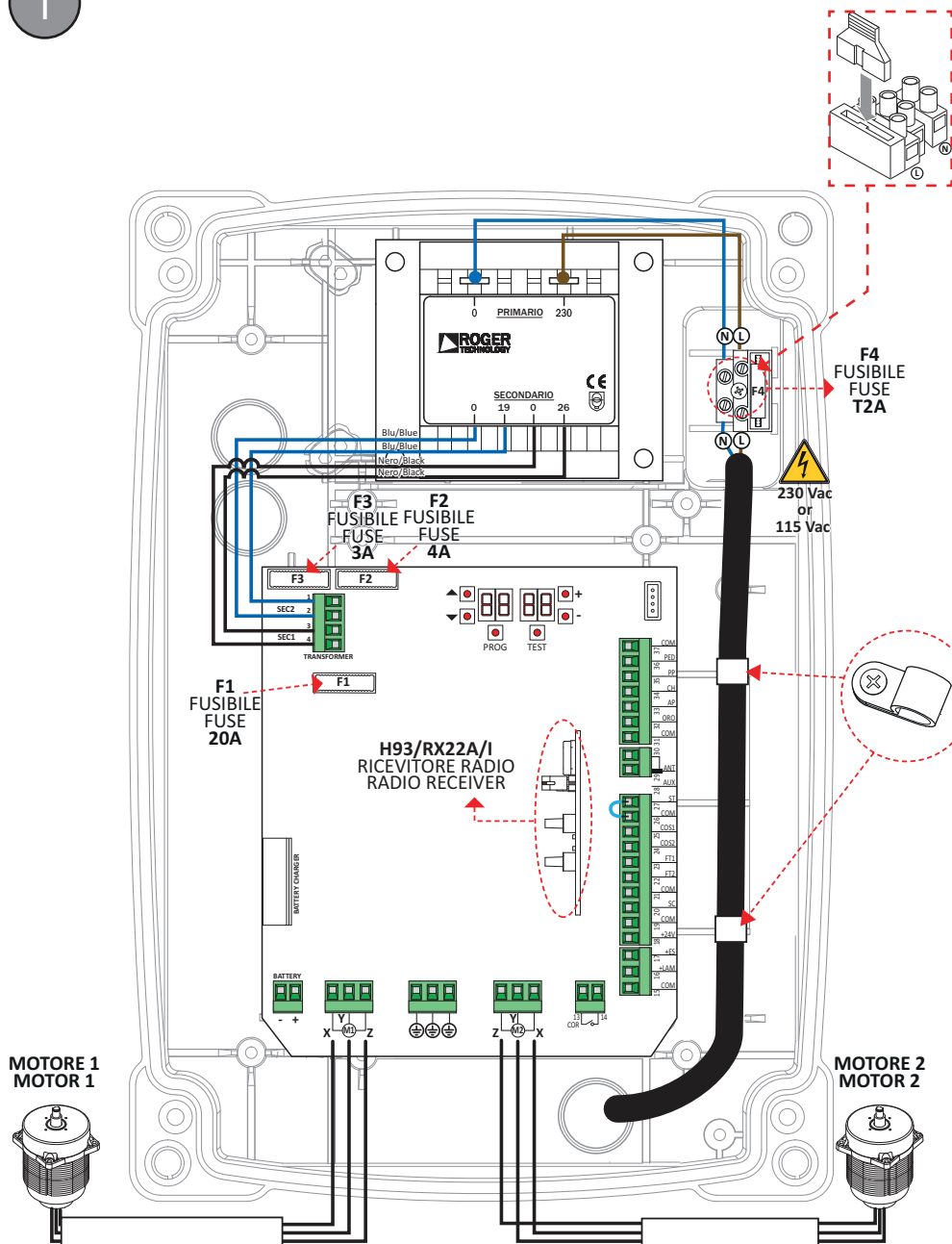
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Illustrations et schémas - Ilustraciones y esquemas - Ilustrações e esquemas

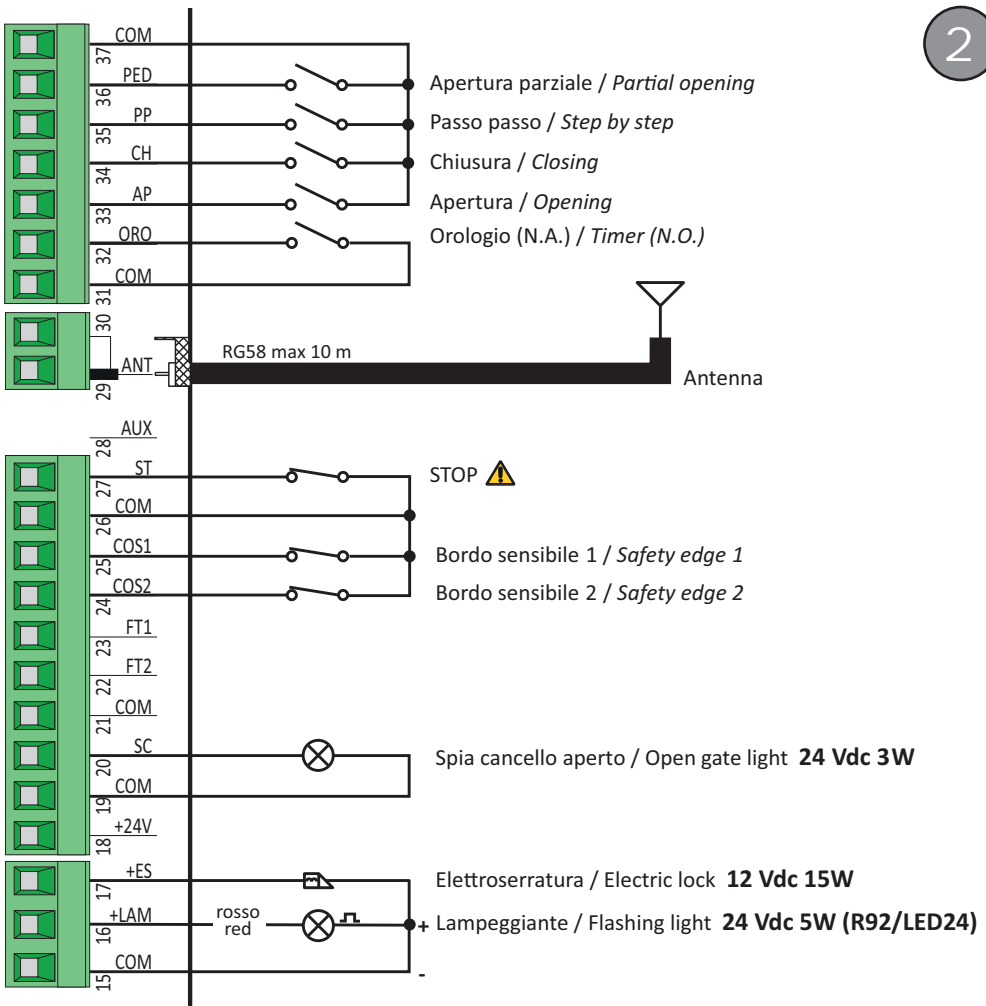


Firmware Rev P3.00

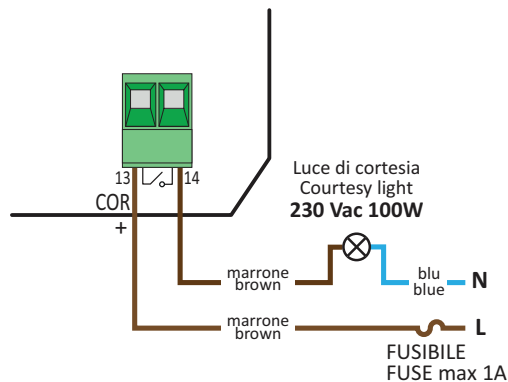
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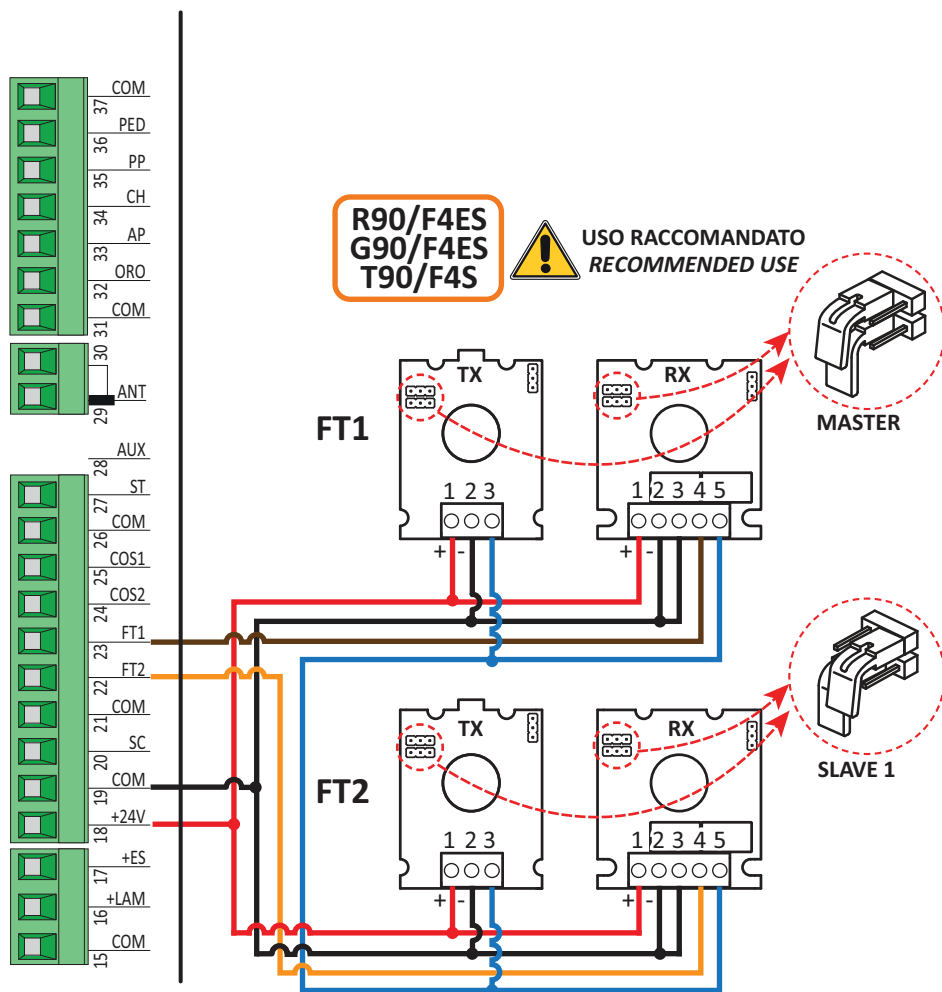


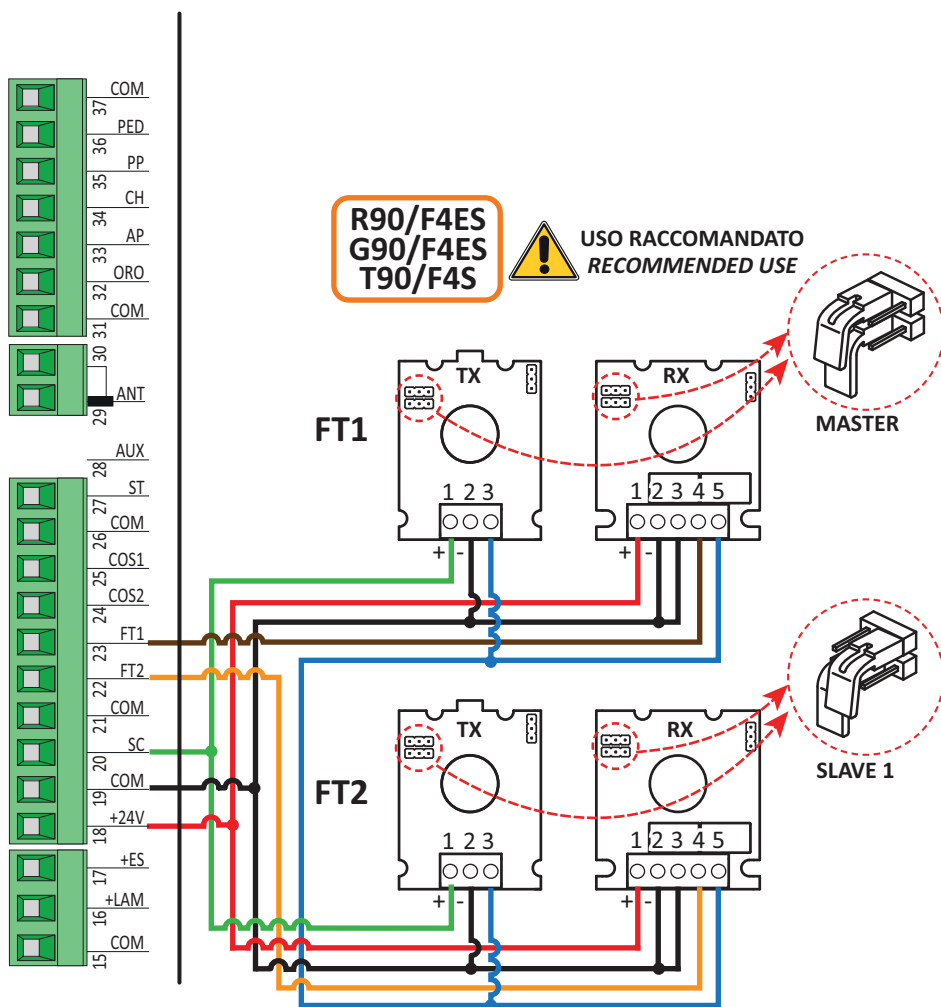
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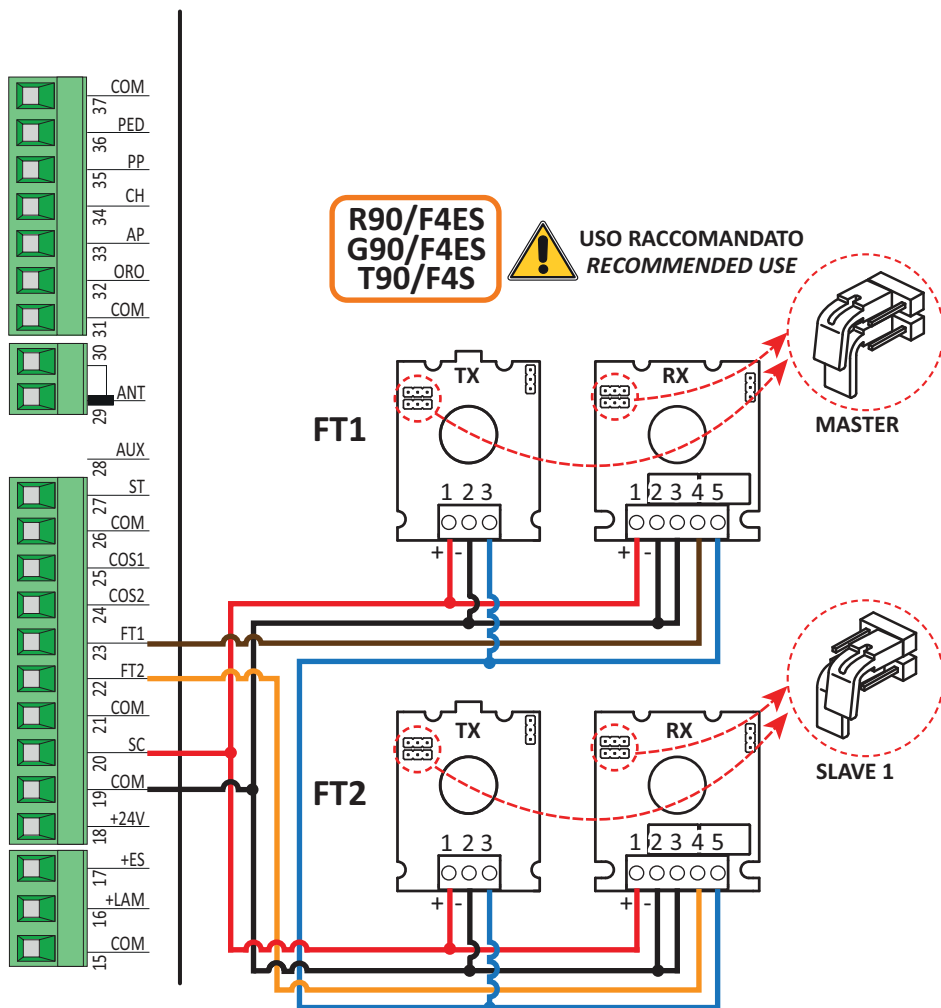




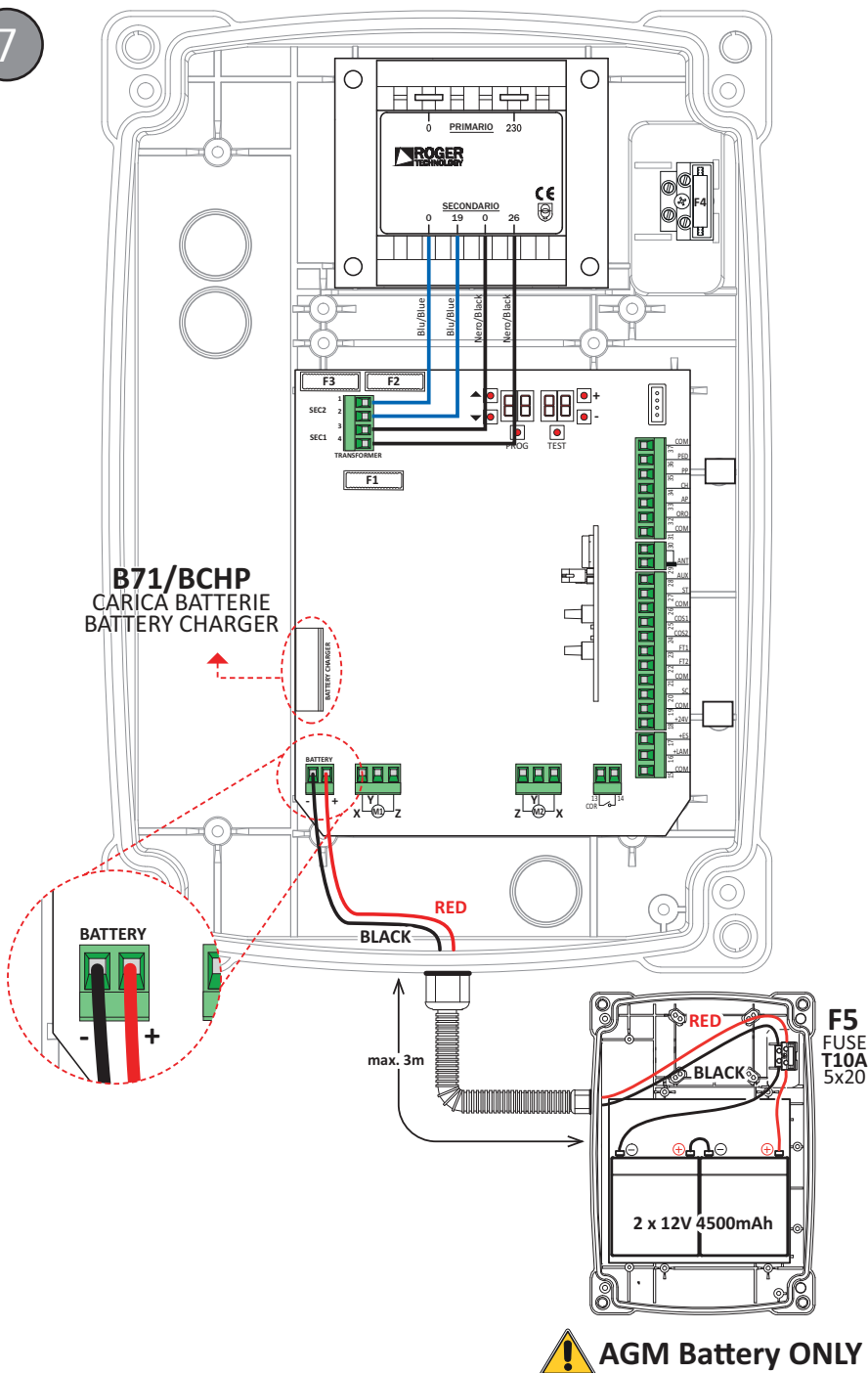


BATTERY SAVING (impostare / set AB 03)

BATTERY SAVING + TEST FOTOCELLULE / PHOTOCELLS TEST
(impostare / set AB 04)

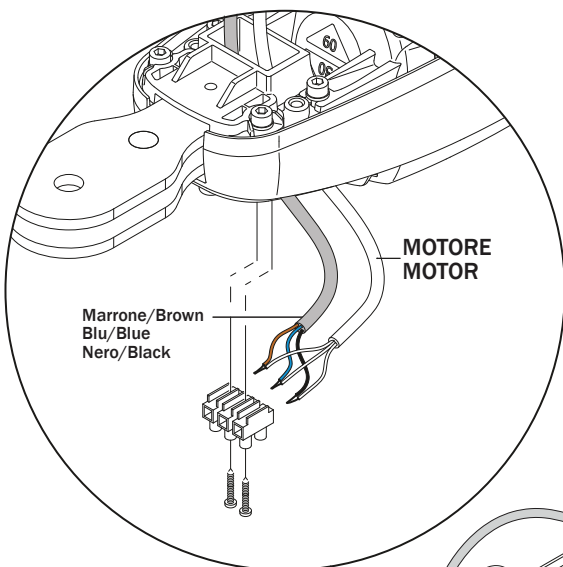


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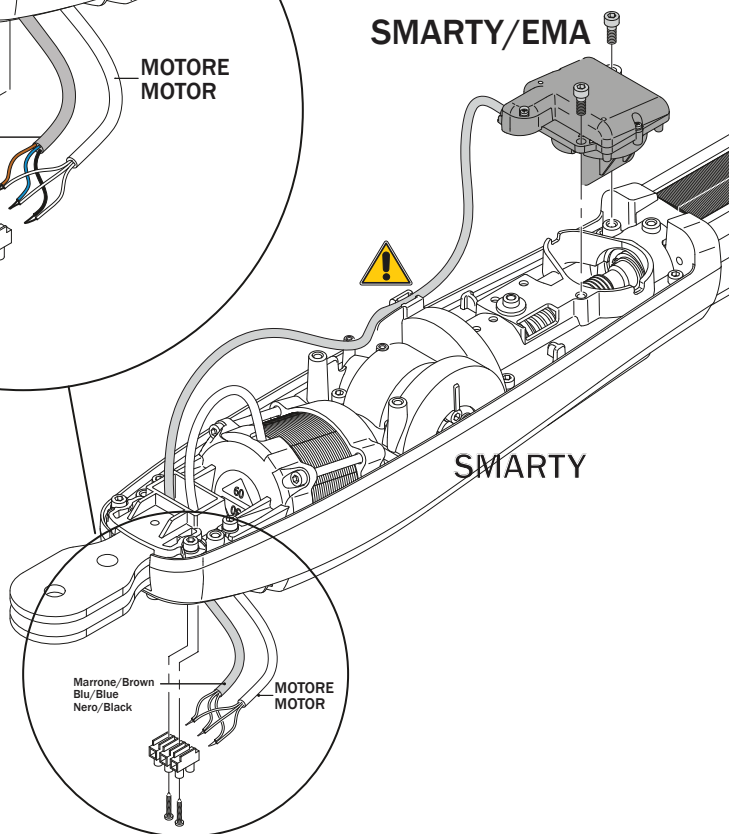


Marrone/Brown
Blu/Blue
Nero/Black

SMARTY/EMA



SMARTY/EMA



1 Avvertenze generali



Attenzione: una errata installazione può causare gravi danni. Leggere attentamente le istruzioni prima di iniziare l'installazione del prodotto.

Il presente manuale di installazione è rivolto esclusivamente a personale qualificato.

ROGER TECHNOLOGY declina qualsiasi responsabilità derivante da un uso improprio o diverso da quello per cui è destinato ed indicato nel presente manuale.

L'installazione, i collegamenti elettrici e le regolazioni devono essere effettuati da personale qualificato nell'osservanza della Buona Tecnica ed in ottemperanza alle normative vigenti.

Prima di iniziare l'installazione verificare l'integrità del prodotto.

Prevedere sulla rete di alimentazione un interruttore o un sezionatore onnipolare con distanza di apertura dei contatti uguale o superiore a 3 mm.



Verificare che a monte dell'impianto elettrico vi sia un interruttore differenziale ed una protezione di sovracorrente adeguati nell'osservanza della Buona Tecnica ed in ottemperanza alle norme vigenti.

Quando richiesto, collegare l'automazione ad un efficace impianto di messa a terra eseguito come indicato dalle vigenti norme di sicurezza.

Le norme Europee EN 12453 e EN 12445 stabiliscono i requisiti minimi relativi alla sicurezza d'uso di porte e cancelli automatici. In particolare prevedono l'utilizzo della limitazione delle forze e di dispositivi di sicurezza (pedane sensibili, barriere immateriali, funzionamento a uomo presente, ecc) atti a rilevare la presenza di persone o cose che ne impediscano l'urto in qualsiasi circostanza.

Qualora la sicurezza dell'impianto si basi sulla limitazione delle forze di impatto, è necessario verificare che l'automazione abbia le caratteristiche e le prestazioni adeguate al rispetto delle norme in vigore.

L'installatore è tenuto ad eseguire la misurazione delle forze di impatto ed a selezionare sulla centrale di comando i valori della velocità e della coppia che permettano alla porta o cancello motorizzati di rientrare nei limiti stabiliti dalle norme EN 12453 e EN 12445.

Togliere l'alimentazione elettrica, prima di qualsiasi intervento. Scollegare anche eventuali batterie tampone, se presenti. Per l'eventuale riparazione o sostituzione dei prodotti dovranno essere utilizzati esclusivamente ricambi originali.

I materiali dell'imballaggio (plastica, polistirolo, ecc.) non vanno dispersi nell'ambiente e non devono essere lasciati alla portata dei bambini in quanto potenziali fonti di pericolo.

2 Descrizione prodotto

La centrale **EDGE1** a 36V controlla in modalità sensorless 1 o 2 motori ROGER brushless per applicazioni su ante di grandi dimensioni o di peso elevato.

Attenzione all'impostazione del parametro A1. Una errata impostazione può causare anomalie nel funzionamento dell'automazione.

Utilizzare lo stesso tipo di motori per entrambe le ante in installazioni di automazioni a due ante battenti.

Regolare adeguatamente le velocità, i rallentamenti e i ritardi in apertura e chiusura al tipo di installazione, facendo attenzione alla corretta sovrapposizione delle ante.

Si consiglia l'uso di accessori, dispositivi di comando e di sicurezza ROGER TECHNOLOGY. In particolare, si raccomanda di installare fotocellule serie **R90/F4ES**, **G90/F4ES** oppure **T90/F4S**.

Visualizzazione contatore ore manovra

Il numero è composto dai valori dei parametri da $h0$ a $h1$.

NOTA: i valori indicati in tabella sono valori puramente indicativi.

Quando si supera il limite di ore manovra impostato da $B5$ e $B7$, si attiva l'allarme manutenzione (esempio: ogni 1500 ore manovra).

Sul display appare $ASSL$ e il lampeggiante, con motori fermi, si attiva ad intervalli regolari (1 s acceso 4 s spento) finché non si effettua la manutenzione dell'impianto e si resetta l'allarme.

Per resettare l'allarme premere TEST per 5 s. Sul display appare $ASSL$ seguito da $UPdL$ lampeggiante per 4 s, mantenere premuto il tasto TEST per resettare l'allarme fino alla visualizzazione di $donE$.

Se si rilascia il tasto TEST il display visualizza $AbbrL$ e l'allarme non si resetta.

Il numero di ore $H0-H1$ viene memorizzato dalla centralina e il conteggio si rinnova.

Superato il valore $H0=99$, $H1=90$ (9990 ore di manovra) l'allarme manutenzione non verrà più gestito.

$h001$

Ore manovra

$h123$

Esempio: $0123 = 123$ ore

Visualizzazione contatore giorni di accensione della centralina

Il numero è composto dai valori dei parametri da $d0$ a $d1$.

NOTA: i valori indicati in tabella sono valori puramente indicativi.

$d001$

Giorni di accensione

$d123$

Esempio: $0123 = 123$ giorni

Password

L'impostazione della password impedisce l'accesso alle regolazioni a personale non autorizzato.

Con password attiva ($CP=01$) è possibile visualizzare i parametri, ma NON è possibile modificarne i valori.

La password è univoca, cioè una sola password può gestire l'automazione.

ATTENZIONE: Se si smarrisce la password contattare il Servizio Assistenza.

$P100$

$P200$

$P300$

$P400$

Procedura di attivazione password:

- Inserire i valori desiderati nei parametri $P1$, $P2$, $P3$ e $P4$.
- Con i tasti UP ▲ e/o DOWN ▼ visualizzare il parametro CP .
- Premere per 4 s i tasti + e -.
- Quando il display lampeggia, la password è stata memorizzata.
- Spegner e riaccendere la centralina. Verificare l'attivazione della password ($CP=01$).

Procedura sblocco temporaneo:

- Inserire la password.
- Verificare che $CP=00$.

Procedura di cancellazione password:

- Inserire la password ($CP=00$).
- Memorizzare i valori di $P1$, $P2$, $P3$, $P4 = 00$.
- Con i tasti UP ▲ e/o DOWN ▼ visualizzare il parametro CP .
- Premere per 4 s i tasti + e -.
- Quando il display lampeggia, la password è stata cancellata (i valori $P100$, $P200$, $P300$ e $P400$ corrispondono a "password assente").
- Spegner e riaccendere la centralina ($CP=00$).

$CP00$

Cambio password


00

Protezione disattivata.

01

Protezione attivata.









11 Comandi e accessori









 Le sicurezze con contatto N.C., se non installate devono essere ponticellate ai morsetti COM, oppure disabilitate modificando i parametri 50, 51, 53, 54, 73 e 74.

LEGENDA:

N.A. (Normalmente Aperto)

N.C. (Normalmente Chiuso)

CONTATTO	DESCRIZIONE
13(COR) 14 	Collegamento luce di cortesia (contatto puro) 230 Vac 100 W - 24 Vac/dc 40 W (fig. 3).
16(+LAM) 15(COM) 	Collegamento lampeggiante (24 Vdc - intermittenza 50%) (fig. 2). E' possibile selezionare le impostazioni di prelampeggio dal parametro R5 e le modalità di intermittenza dal parametro 7B .
17(+ES) 15(COM) 	Uscita (12Vdc 15W) per alimentazione elettroserratura (fig. 2). Il funzionamento dell'elettroserratura è regolato dal parametro 29 .
18(+24V) 15(COM)	Alimentazione per dispositivi esterni. Vedi caratteristiche tecniche.
20(SC) 19(COM) 	Spia cancello aperto 24 Vdc 3 W (vedi fig. 2) Il funzionamento della spia è regolato dal parametro AB .
20(SC) 19(COM) 	Collegamento test fotocellule e/o battery saving (vedi fig. 5 e 6). E' possibile collegare l'alimentazione dei trasmettitori (TX) delle fotocellule al morsetto 20(+SC) . Impostare il parametro AB 02 per abilitare la funzione di test. La centralina ad ogni comando ricevuto spegne e accende le fotocellule, per verificare il corretto cambio di stato del contatto. E' possibile collegare inoltre, l'alimentazione di tutti i dispositivi esterni per ridurre il consumo delle batterie (se presente). Impostare AB 03 o AB 04 . ATTENZIONE! Se si utilizza il contatto 20(SC) per il test fotocellule o il funzionamento battery saving, non è più possibile collegare una spia cancello aperto.
22(FT2) 21(COM) 	Ingresso (N.C. oppure 8.2 kOhm) per collegamento fotocellula FT2 (fig. 4-5-6). Le fotocellule FT2 sono configurate di fabbrica con le seguenti impostazioni: - 53 00 . La fotocellula FT2 è disabilitata in apertura. - 54 00 . La fotocellula FT2 è disabilitata in chiusura. - 55 0 1 . Se la fotocellula FT2 è oscurata, il cancello apre al ricevimento di un comando di apertura. - 57 00 . Contatto in ingresso N.C. (normalmente chiuso). Se le fotocellule non sono installate, ponticellare i morsetti 22(FT2) - 21(COM) oppure impostare i parametri 53 00 e 54 00 . ATTENZIONE! Si raccomanda l'uso di fotocellule serie R90/F4ES , G90/F4ES oppure T90/F4S .
23(FT1) 21(COM) 	Ingresso (N.C. oppure 8.2 kOhm) per collegamento fotocellula FT1 (fig. 4-5-6). Le fotocellule sono configurate di fabbrica con le seguenti impostazioni: - 50 00 . La fotocellula interviene solo in chiusura. In apertura è ignorata. - 51 02 . Durante la chiusura l'intervento della fotocellula provoca l'inversione del movimento. - 52 0 1 . Se la fotocellula FT1 è oscurata, il cancello apre al ricevimento di un comando di apertura. - 57 00 . Contatto in ingresso N.C. (normalmente chiuso). Se le fotocellule non sono installate, ponticellare i morsetti 23(FT1) - 21(COM) oppure impostare i parametri 50 00 e 51 00 . ATTENZIONE! Si raccomanda l'uso di fotocellule serie R90/F4ES , G90/F4ES oppure T90/F4S .
24(COS2) 26(COM) 	Ingresso (N.C. oppure 8.2 kOhm) per collegamento bordo sensibile COS2 . Il bordo sensibile è configurato di fabbrica con le seguenti impostazioni: - 74 00 . Il bordo sensibile COS2 (contatto N.C.) è disabilitato. Se il bordo sensibile non è installato, ponticellare i morsetti 24(COS2) - 26(COM) oppure impostare il parametro 74 00 .

CONTATTO	DESCRIZIONE
25(COS1) 26(COM) 	<p>Ingresso (N.C. oppure 8.2 kOhm) per collegamento bordo sensibile COS1 (fig. 2). Il bordo sensibile è configurato di fabbrica con le seguenti impostazioni: – 73 03 . L'intervento del bordo sensibile COS1 (contatto N.C.) causa sempre l'inversione del cancello.</p> <p>Se il bordo sensibile non è installato, ponticellare i morsetti 25(COS1)-26(COM) oppure impostare il parametro 73 00.</p>
27(ST) 26(COM) 	<p>Ingresso comando di STOP (N.C. oppure 8.2 kOhm). L'apertura del contatto di sicurezza provoca l'arresto del movimento. NOTA: il contatto è ponticellato di fabbrica da ROGER TECHNOLOGY. Il contatto è configurato di fabbrica con le seguenti impostazioni: – 57 00. Contatto in ingresso N.C. (normalmente chiuso).</p>
29 (ANT) 30 	<p>Collegamento antenna per ricevitore radio ad innesto. Se si utilizza l'antenna esterna, utilizzare cavo RG58, lunghezza massima consigliata: 10 m. NOTA: evitare di fare giunture sul cavo.</p>
32(ORO) 31(COM) 	<p>Ingresso contatto temporizzato orologio (N.A.). Quando si attiva la funzione orologio il cancello apre e rimane aperto per il tempo programmato dall'orologio. Allo scadere del tempo programmato dal dispositivo esterno (orologio) il cancello chiude.</p>
33(AP) 37(COM) 	<p>Ingresso comando di apertura (N.A.).</p>
34(CH) 37(COM) 	<p>Ingresso comando di chiusura (N.A.).</p>
35(PP) 37(COM) 	<p>Ingresso comando passo-passo (N.A.). Il funzionamento del comando è regolato dal parametro P4.</p>
36(PED) 37(COM) 	<p>Ingresso comando di apertura parziale (N.A.). Nelle automazioni a due ante battenti, di fabbrica, l'apertura parziale provoca l'apertura totale dell'ANTA 1. Nelle automazioni ad una anta battente, di fabbrica, l'apertura parziale è il 50% dell'apertura totale.</p>
ENCODER ASSOLUTO (SMARTY/EMA)	<p>Encoder assoluto per motori Serie SMARTY (vedi fig. 8). In fase di apprendimento della corsa l'encoder viene consultato in posizione di completa apertura e di completa chiusura. Durante il funzionamento normale la consultazione dell'encoder viene fatta ad ogni avvio del motore, tranne nel caso di inversione dopo l'intervento del bordo sensibile, del rilevamento ostacolo, delle fotocellule o di un comando.</p> <p>NOTA: L'encoder assoluto è collegato in parallelo alle fasi del motore. E' assolutamente normale udire un breve segnale acustico (fischio). Se non viene udito l'encoder potrebbe essere scollegato/assente o danneggiato.</p> <p>Per SMARTY REVERSIBILE: l'encoder è assemblato ed installato di fabbrica da ROGER TECHNOLOGY. Per SMARTY IRREVERSIBILE: è disponibile il codice prodotto SMARTY/EMA per l'installazione dell'encoder sul motore. Abilitare l'encoder al parametro 71 01 ed eseguire la procedura di apprendimento della corsa.</p>
RECEIVER CARD	<p>Connettore per ricevitore radio ad innesto. La centrale ha impostate di fabbrica due funzioni di comando a distanza via radio: – PR1 - comando di passo-passo (modificabile dal parametro 76). – PR2 - comando di apertura parziale (modificabile dal parametro 77).</p>

CONTATTO	DESCRIZIONE
CARICABATTERIE B71/BCHP	(Fig. 7) In assenza di tensione di rete la centrale viene alimentata dalle batterie, il display visualizza <i>bAtE</i> e il lampeggiante si attiva saltuariamente, fino al ripristino della linea o fino a quando la tensione delle batterie scende sotto la soglia di sicurezza. Il display visualizza <i>bEtL0</i> (Battery Low) e la centrale non accetta nessun comando. Se la tensione di rete viene sospesa (black-out) quando il cancello è in movimento, questo si ferma e dopo 2 s riprende in automatico la manovra interrotta. NOTA: se i tempi di ritardo sono disabilitati (parametri 25 e 26) con il funzionamento in batteria si attiva comunque un tempo di ritardo fisso di 1,5 s.
KIT BATTERIE (B71/BCHP/EXT)	Per ridurre il consumo delle batterie è possibile collegare il positivo dell'alimentazione dei trasmettitori e dei ricevitori delle fotocellule al morsetto SC (vedi fig. 5 e 6). Impostare <i>AB 03</i> o <i>AB 04</i> . In questo modo, quando il cancello è completamente aperto o completamente chiuso, la centrale toglie alimentazione ai dispositivi.
2x12 Vdc 4,5 Ah	ATTENZIONE! per consentire la ricarica, le batterie devono essere sempre collegate alla centrale elettronica. Verificare periodicamente, almeno ogni 6 mesi, l'efficienza della batteria.
Usare solo batterie tipo AGM.	Per ulteriori informazioni fare riferimento al manuale di installazione del caricabatterie B71/BCHP .

12 Segnalazione degli ingressi di sicurezza e dei comandi (modalità TEST)

In assenza di comandi volontari attivati , premere il tasto TEST e verificare quanto segue:

DISPLAY	POSSIBILE CAUSA	INTERVENTO DA SOFTWARE	INTERVENTO TRADIZIONALE
<i>88 27</i>	Contatto STOP di sicurezza aperto. Errata selezione del parametro 57.	Verificare la corretta selezione del parametro 57.	Installare un pulsante di STOP (N.C.) oppure ponticellare il contatto ST con il contatto COM.
<i>88 25</i>	Bordo sensibile COS1 non collegato o collegamento errato.	Se non utilizzato o se si vuole escludere, impostare il parametro 73 00.	Se non utilizzato, ponticellare il contatto COS1 con il contatto COM .
<i>88 24</i>	Bordo sensibile COS2 non collegato o collegamento errato.	Se non utilizzato o se si vuole escludere, impostare il parametro 74 00.	Se non utilizzato, ponticellare il contatto COS2 con il contatto COM .
<i>88 23</i>	Fotocellula FT1 non collegata o collegamento errato. Errata selezione del parametro 57.	Se non utilizzata o se si vuole escludere, impostare il parametro 50 00 e 51 00	Se non utilizzato, ponticellare il contatto FT1 con il contatto COM . Controllare la connessione e i riferimenti al relativo schema di collegamento (figura 4).
<i>88 22</i>	Fotocellula FT2 non collegata o collegamento errato. Errata selezione del parametro 57.	Se non utilizzata o se si vuole escludere, impostare il parametro 53 00 e 54 00	Se non utilizzato, ponticellare il contatto FT2 con il contatto COM . Controllare la connessione e i riferimenti al relativo schema di collegamento (figura 4).
<i>PP 00</i>	In assenza di comando volontario il contatto (N.A) potrebbe essere difettoso o il collegamento ad un pulsante potrebbe essere errato.	-	Verificare i contatti PP - COM e i collegamenti al pulsante.
<i>CH 00</i>		-	Verificare i contatti CH - COM ed i collegamenti al pulsante.
<i>AP 00</i>		-	Verificare i contatti AP - COM e i collegamenti al pulsante.
<i>PE 00</i>		-	Verificare i contatti PED - COM e i collegamenti al pulsante.
<i>0-00</i>	In assenza di comando il contatto (N.A) potrebbe essere difettoso o il collegamento al timer potrebbe essere errato	-	Verificare i contatti ORO - COM . Il contatto non deve essere ponticellato se non usato.

NOTA: Premere il tasto TEST per uscire dalla modalità TEST.
Si consiglia di procedere alla risoluzione delle segnalazioni dello stato delle sicurezze e degli ingressi sempre in modalità “intervento da software”.

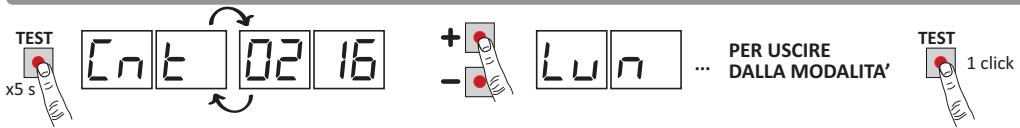
13 Segnalazione allarmi e anomalie

PROBLEMA	SEGNALAZIONE ALLARME	POSSIBILE CAUSA	INTERVENTO
Il cancello non apre o non chiude.	LED POWER spento	Manca alimentazione.	Verificare il cavo di alimentazione.
	LED POWER spento	Fusibili bruciati.	Sostituire il fusibile. Si raccomanda di estrarre e reinserire il fusibile solamente in assenza di tensione di rete.
	OF St	Anomalia nella tensione di alimentazione di ingresso. Inizializzazione della centrale fallita.	Togliere alimentazione, attendere 10 s e ridare alimentazione. Se il problema persiste si consiglia di sostituire la centralina di comando.
	Pr Ot	Rilevata sovracorrente nell'inverter.	Premere due volte il tasto TEST oppure dare 3 comandi in successione.
	SECO	Errato collegamento a SEC1-SEC2 del trasformatore.	Scambiare la connessione tra SEC1 e SEC2.
	dAtA	Dati lunghezza corsa errati.	Premere il tasto TEST e verificare la/le sicurezza/e in allarme. Verificare il corretto posizionamento delle battute meccaniche del MOTORE 1 e MOTORE 2. Ripetere la procedura di apprendimento.
		Modificato parametro 7 l.	Ad ogni variazione del parametro, il display visualizza l'errore dAtA , premere il tasto PROG e ripetere la procedura di apprendimento.
	Not 1	Motore 1 non collegato.	Verificare il cavo motore.
	Not 2	Motore 2 non collegato.	Verificare il cavo motore.
	FUSE	Fusibile F1 bruciato o danneggiato. Se la centrale è in modalità batteria la segnalazione non è visibile.	Sostituire il fusibile. Si raccomanda di estrarre e reinserire il fusibile solamente in assenza di tensione di rete.
	esempio: 15 EE 21 EE	Errore nei parametri di configurazione.	Impostare correttamente il valore di configurazione e salvarlo.
	En 11	Encoder MOTORE 1 non risponde, assente o guasto.	Verificare il collegamento dell'encoder. Se il problema persiste si consiglia di sostituire l'encoder.
	En 21	Encoder MOTORE 2 non risponde, assente o guasto.	Verificare il collegamento dell'encoder. Se il problema persiste si consiglia di sostituire l'encoder.
	En 12	Errore di comunicazione tra centrale ed encoder MOTORE 1.	Verificare il collegamento del MOTORE 1.
	En 22	Errore di comunicazione tra centrale ed encoder MOTORE 2.	Verificare il collegamento del MOTORE 2.
	En 13	Malfunzionamento poco importante Encoder MOTORE 1.	Verificare il collegamento del MOTORE 1. Verificare la tensione di alimentazione della centrale.
	En 23	Malfunzionamento poco importante Encoder MOTORE 2.	Verificare il collegamento del MOTORE 2. Verificare la tensione di alimentazione della centrale.
	En 14	Malfunzionamento magnete Encoder MOTORE 1. Errore grave Encoder.	Se il problema persiste si consiglia di sostituire l'encoder.
	En 24	Malfunzionamento magnete Encoder MOTORE 2. Errore grave Encoder.	Se il problema persiste si consiglia di sostituire l'encoder.
	En 15	Errato rilevamento posizione MOTORE 1 rispetto alla lunghezza della corsa.	Ripetere la procedura di apprendimento. Se il problema persiste si consiglia di sostituire l'encoder.
	En 25	Errato rilevamento posizione MOTORE 2 rispetto alla lunghezza della corsa.	Ripetere la procedura di apprendimento. Se il problema persiste si consiglia di sostituire l'encoder.
	bLtLO (btLO)	Batterie scariche.	Attendere il ripristino della tensione di rete.

PROBLEMA	SEGNALAZIONE ALLARME	POSSIBILE CAUSA	INTERVENTO
La procedura di apprendimento non si conclude.	<i>AP P.E</i>	E' stato erroneamente premuto il tasto TEST.	Ripetere la procedura di apprendimento.
		Le sicurezze sono in allarme.	Premere il tasto TEST e verificare la/le sicurezza/e in allarme e i rispettivi collegamenti delle sicurezze.
	<i>AP PL</i>	Eccessivo calo di tensione.	Ripetere la procedura di apprendimento; verificare la tensione di rete
		Errore lunghezza corsa.	Portare il cancello in posizione di completa chiusura e ripetere la procedura.
Il radiocomando ha poca portata e non funziona con automazione in movimento.	-	La trasmissione radio è ostacolata da strutture metalliche o muri in cemento armato.	Installare l'antenna.
Il lampeggiante non funziona.	-	Batterie scariche.	Sostituire le batterie dei radiocomandi.
Con cancello fermo, il lampeggiante si accende ad intervalli regolari (1 s acceso 4 s spento).	-	Lampadina / LED bruciati oppure fili lampeggiante staccati.	Verificare il circuito a LED e/o i fili.
	<i>ASSL</i> (ASSt)	Allarme manutenzione impianto.	Effettuare la manutenzione dell'impianto. Per resettare l'allarme premere TEST per 5 s. Sul display appare <i>ASSL</i> seguito da <i>UPdt</i> lampeggiante per 4 s, mantenere premuto il tasto TEST per resettare l'allarme fino alla visualizzazione di <i>donE</i> . Se si rilascia il tasto TEST il display visualizza <i>Abre</i> e l'allarme non si resetta. Il conteggio manovre si azzerà e rinnova.
Segnalazione visiva <i>POS</i> e segnale acustico contestuale.	<i>POS 1</i> (POS1)	Segnalazione di lettura posizione MOTORE 1 in corso.	Ad ogni avvio di manovra la centrale di comando determina la posizione del MOTORE 1. Se la lettura non va a buon fine il display visualizza <i>En I</i> .
	<i>POS2</i> (POS2)	Segnalazione di lettura posizione MOTORE 2 in corso.	Ad ogni avvio di manovra la centrale di comando determina la posizione del MOTORE 2. Se la lettura non va a buon fine il display visualizza <i>En I</i> .
La spia cancello aperto non funziona.	-	Lampadina bruciata oppure fili staccati.	Verificare la lampadina e/o i fili.
Il cancello non esegue la manovra desiderata.	-	Fili motore invertiti.	Invertire due fili sui morsetti X-Y-Z o Z-Y-X.

NOTA: Premendo il tasto TEST, si cancella momentaneamente la segnalazione di allarme.

14 Modalità INFO



La Modalità INFO permette di visualizzare alcuni valori misurati dalla centrale **EDGE1**.
Dalla modalità “Visualizzazione comandi e sicurezze” e con motori fermi, premere per 5 s il tasto **TEST**.
La centrale visualizza in sequenza i seguenti parametri e il valore rilevato corrispondente:

Parametro	Funzione
<i>P3.00</i>	Visualizza per 3 s la versione firmware della centrale.
<i>Cnt 1</i> <i>Cnt 2</i>	Visualizza la posizione in cui si trova il MOTORE 1 / MOTORE 2 espressa in giri nel momento della verifica, rispetto alla lunghezza totale.
<i>Lun 1</i> <i>Lun 2</i>	Visualizza la lunghezza totale della corsa programmata del MOTORE 1 / MOTORE 2, espressa in giri.
<i>rPN 1</i> <i>rPN 2</i>	Visualizza la velocità del MOTORE 1 / MOTORE 2, espressa in giri al minuto (rPM).
<i>ANP 1</i> <i>ANP 2</i>	Visualizza la corrente assorbita dal MOTORE 1 / MOTORE 2, espressa in Ampère (esempio: 001.1 = 1,1 A ... 016.5 = 16,5 A). Se il MOTORE 1 / MOTORE 2 è fermo la corrente assorbita sarà uguale a 0. Dando un comando è possibile rilevare la corrente assorbita.
<i>bUS</i>	Indicatore di buono stato dell'impianto. A motori fermi è possibile verificare un eventuale sovraccarico (esempio: troppi carichi collegati all'uscita 24 V) o una tensione di rete troppo bassa. Fare riferimento ai seguenti valori: tensione di rete= 230 Vac (nominale), bUS= 37.5 tensione di rete= 207 Vac (-10%), bUS= 33.5 tensione di rete= 253 Vac (+10%), bUS= 41.5
<i>CNP 1</i> <i>CNP 2</i>	Visualizza la corrente utilizzata per correggere eventuali sforzi rilevati del MOTORE 1 / MOTORE 2 dovuti ad esempio alla bassa temperatura esterna, espressa in Ampère (esempio: 0 = 0 A ... 4 = +3 A). Alla partenza dell'automazione da completamente aperta o completamente chiusa, se la centrale rileva uno sforzo maggiore rispetto a quello memorizzato in fase di apprendimento della corsa, automaticamente aumenta la corrente da erogare al MOTORE 1 / MOTORE 2.
<i>ASC 1</i> <i>ASC 2</i>	Visualizza la soglia di corrente a cui interviene il rilevamento ostacolo (anti-schiacciamento) del MOTORE 1 / MOTORE 2, espressa in Ampère. Il valore è calcolato automaticamente dalla centrale sulla base delle impostazioni dei parametri 30, 31 e 32. Per un corretto funzionamento del motore <i>ANP</i> deve risultare sempre più basso del valore <i>ASC</i> .
<i>ti n 1</i> <i>ti n 2</i>	Visualizza il tempo che impiega il MOTORE 1 / MOTORE 2 a rilevare un ostacolo (parametro 31/32), espresso in secondi. Esempio 1.000 = 1 s / 0.120 = 0.12 s (120 ms). Assicurarsi che il tempo di intervento sia superiore a 0,3 s.
<i>AbS 1</i> <i>AbS 2</i>	Indicatore di buono stato del MOTORE 1 / MOTORE 2. In condizioni normali il valore è inferiore a 500. Se il valore è superiore a 2000 la centrale blocca il motore. Un valore superiore a 500 indica la qualità del cavo di collegamento inadeguata per l'installazione oppure il cavo di collegamento è troppo lungo o di sezione inadeguata oppure un problema elettrico al motore brushless.
<i>UP</i>	Se la centrale conosce la posizione delle ante al momento della verifica, il display visualizza: <i>UP --</i> posizione conosciuta, funzionamento normale. <i>UP 1</i> posizione sconosciuta dell'ANTA 1, fase di recupero posizione in corso. <i>UP 2</i> posizione sconosciuta dell'ANTA 2, fase di recupero posizione in corso. <i>UP 12</i> posizione sconosciuta di entrambe le ante, fase di recupero posizione in corso.
<i>OC</i>	Indica lo stato del cancello (Aperto/Chiuso). <i>OC OP</i> automazione in fase di apertura (motori attivi). <i>OC CL</i> automazione in fase di chiusura (motori attivi). <i>OC - 0</i> automazione completamente aperta (motori fermi). <i>OC - C</i> automazione completamente chiusa (motori fermi).
<i>UF</i>	<i>UF U</i> rilevata una tensione di rete troppo bassa oppure un sovraccarico. <i>UF H</i> rilevata una sovracorrente sui motori.
<i>HOUR</i>	Visualizza il numero di ore residue allo scadere dell'allarme manutenzione impostato. Il numero è preceduto dal segno - (meno). Se il numero di ore che mancano è a 4 cifre, il segno - (meno) è sostituito da un punto. Esempio: -1234 ore all'allarme manutenzione = .1234 • Premendo <i>↓</i> (freccia giù): si visualizzano le ore dell'ultima manutenzione effettuata. La prima manutenzione è indicata 0.0.0.0. • Premendo <i>↑</i> (freccia su): si ritorna alla visualizzazione del residuo ore.
<i>bLoc</i>	Visualizza se il freno motore è attivo <i>0</i> oppure non attivo <i>00</i> .

- Se alla centrale è collegato un solo motore, vengono visualizzati solo i parametri relativi al “MOTORE 1”.
- Per scorrere i parametri utilizzare i tasti **+** / **-**. Raggiunto l'ultimo parametro si deve tornare indietro.
- Nella Modalità INFO è possibile dare comandi ai motori per verificarne in tempo reale il funzionamento.
- E' possibile controllare i due motori separatamente in modalità UOMO PRESENTE ignorando le sicurezze installate (fotocellule, bordi sensibili, STOP) e l'errore "dAtA" ad eccezione del rilevamento ostacolo. Il controllo del MOTORE 1 è possibile quando sul display si visualizzano: *Cnt 1*, *rPN 1*, *ANP 1* e *AbS 1*; il controllo del MOTORE 2 è possibile quando si visualizzano *Cnt 2*, *rPN 2*, *ANP 2* e *AbS 2*.

- Il MOTORE in oggetto si apre premendo il tasto ▲ "FRECCIA SU", si chiude premendo il tasto ▼ "FRECCIA GIÙ".
- Per motivi di sicurezza, per attivare la funzione (apertura/chiusura) a UOMO PRESENTE: premere il tasto, rilasciarlo ed entro 1 s ripremere nuovamente tenendolo premuto. L'attivazione cessa al rilascio del tasto.

ATTENZIONE: Durante la verifica, il conteggio dei giri motore (posizione) rimane inalterato ma il controllo sullo sfasamento delle ante potrebbe causare problemi. Prima di uscire dalla modalità INFO si consiglia di riposizionare le ante in modo corretto.

- Per uscire dalla Modalità INFO premere il tasto TEST.

15 Sblocco meccanico

In mancanza di tensione è possibile sbloccare il cancello, come indicato nel manuale d'uso e manutenzione dell'automazione. Al ripristino della tensione e al ricevimento del primo comando, la centrale di comando avvia una manovra di apertura in modalità di recupero posizione (vedi capitolo 16-17).

Per SMARTY 5R / SMARTY 7R: In mancanza di tensione oppure $\leq 4 \text{ V}$, è possibile aprire e chiudere manualmente il cancello senza sbloccare il motore.

L'encoder assoluto SMARTY/EMA (installato di fabbrica su SMARTY REVERSIBILE ed opzionale per SMARTY IRREVERSIBILE) permette alla centrale il recupero immediato della posizione ad ogni nuovo comando ricevuto.

16 Modalità di recupero posizione (BM20-BR20-BH23-BR21)

Dopo una interruzione di tensione o dopo il rilevamento di un ostacolo per tre volte consecutive nella stessa posizione, la centrale di comando al primo comando avvia una manovra in modalità di recupero posizione.

Al ricevimento di un comando il cancello inizia una manovra a bassa velocità. Il lampeggiante si attiva con una sequenza diversa dal normale funzionamento (3 s acceso, 1,5 s spento).

In questa fase la centralina recupera i dati dell'installazione. **Attenzione!** Non dare comandi in questa fase, finché il cancello non ha eseguito una manovra completa per entrambe le ante.

Se si sblocca da completamente aperto o completamente chiuso con la centralina alimentata, assicurarsi di riportare le ante nelle posizione in cui si trovava il cancello per ribloccarlo. Al primo comando ricevuto, il cancello riprenderà il normale funzionamento.

ATTENZIONE: Si consiglia di non sbloccare il cancello in posizione intermedia al fine di evitare la perdita dei dati di posizione dell'anta (vedi dati CnE1 / CnE2 in modalità INFO). In questo caso è necessario eseguire un recupero posizione.

17 Modalità di recupero posizione con encoder assoluto (solo Serie SMARTY)

Dopo una interruzione di tensione o lo sblocco del cancello, al primo comando ricevuto la centrale recupera immediatamente la posizione delle ante, grazie all'encoder assoluto.

Nel caso la centrale rilevasse una posizione errata delle ante, correggerà automaticamente l'errore.

Esempio: se riceve un comando di chiusura ma le ante non possono chiudere, esegue un comando di completa apertura e dopo 1 s chiude (anche se la richiusura automatica non è abilitata), in modo da ripristinare la corretta posizione.

Attenzione! Non dare comandi in questa fase, finché il cancello non ha eseguito una manovra completa per entrambe le ante.

18 Collaudo

- Dare alimentazione.
- Verificare il corretto senso di rotazione delle automazioni. Se il movimento delle ante è errato, invertire due fili qualsiasi del morsetto X-Y-Z.
- Verificare il corretto funzionamento di tutti i comandi collegati.
- Verificare la corsa e i rallentamenti.
- Verificare il rispetto delle forze di impatto ai sensi delle normative EN 12453 e EN 12445.
- Verificare il corretto intervento delle sicurezze.
- Nel caso sia installato il kit batterie, togliere alimentazione di rete e verificarne il funzionamento.
- Togliere alimentazione di rete e batterie (se presenti) e ridarla. Verificare, il corretto completamento della fase di recupero posizione sia in apertura che in chiusura.
- Nelle automazioni **Serie SMARTY** con encoder assoluto installato, togliere alimentazione e ridarla. Dare un comando e verificare che velocità e rallentamenti siano corretti. Non viene eseguita la manovra di recupero posizione.
- Con $\leq 4 \text{ V}$ (solo SMARTY 5R e SMARTY 7R) verificare che a motori fermi le ante siano bloccate.

19 Manutenzione

Effettuare una manutenzione programmata ogni 6 mesi.

Verificare lo stato di pulizia ed il funzionamento.

Nel caso ci sia presenza di sporco, umidità, insetti o altro, togliere l'alimentazione e pulire la scheda ed il contenitore.

Eseguire nuovamente la procedura di collaudo.

Nel caso si noti dell'ossidazione sul circuito stampato valutare la sostituzione.

Verificare l'efficienza delle batterie.

20 Smaltimento



Il prodotto deve essere disinstallato sempre da personale tecnico qualificato utilizzando le procedure idonee alla corretta rimozione del prodotto. Questo prodotto è costituito da vari tipi di materiali, alcuni possono essere riciclati altri devono essere smaltiti attraverso sistemi di riciclaggio o smaltimento previsti dai regolamenti locali per questa categoria di prodotto.

E' vietato gettare questo prodotto nei rifiuti domestici. Eseguire la "raccolta separata" per lo smaltimento secondo i metodi previsti dai regolamenti locali; oppure riconsegnare il prodotto al venditore nel momento dell'acquisto di un nuovo prodotto equivalente.

Regolamenti locali possono prevedere pesanti sanzioni in caso di smaltimento abusivo di questo prodotto. **Attenzione!** Alcune parti del prodotto possono contenere sostanze inquinanti o pericolose, se disperse potrebbero provocare effetti dannosi sull'ambiente e sulla salute umana.

21 Informazioni aggiuntive e contatti

Tutti i diritti relativi alla presente pubblicazione sono di proprietà esclusiva di ROGER TECHNOLOGY.

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Il presente manuale d'istruzioni e le avvertenze d'uso per l'installatore sono forniti in formato cartaceo ed inseriti all'interno della relativa scatola prodotto.

Il formato digitale (PDF) e tutti gli eventuali aggiornamenti futuri, sono disponibili nell'area riservata del nostro sito internet www.rogertechnology.com/B2B nella sezione Self Service.

SERVIZIO CLIENTI ROGER TECHNOLOGY:

attivo: dal lunedì al venerdì
dalle 8:00 alle 12:00 - dalle 13:30 alle 17:30

Telefono: +39 041 5937023

E-mail: service@rogertechnology.it

Skype: service_rogertechnology

Per eventuali problemi o richieste sull'automazione Vi preghiamo di compilare online il modulo "RIPARAZIONI" collegandovi al nostro sito www.rogertechnology.com/B2B nella sezione Self Service.

22 Dichiarazione di Conformità

Il sottoscritto, rappresentante il seguente costruttore:

Roger Technology - Via Botticelli 8, 31021 Bonisolo di Mogliano V.to (TV)

DICHIARA che l'apparecchiatura descritta in appresso:

Descrizione: Centrale di controllo per cancelli automatici

Modello: **EDGE1**

È conforme alle disposizioni legislative che traspongono le seguenti direttive:

– 2006/42/CE

– 2004/108/CE

– 2011/65/CE

E che sono state applicate tutte le norme e/o specifiche tecniche di seguito indicate:

EN 61000-6-3

EN 61000-6-2

Ultime due cifre dell'anno in cui è stata affissa la marcatura **CE** 17.

Luogo: Mogliano V.to

Data: 01-03-2017

Firma

Rocian Di

1 General safety precautions



Warning: incorrect installation may cause severe damage or injury.

Read the instructions carefully before installing the product.

This installation manual is intended for qualified personnel only.

ROGER TECHNOLOGY cannot be held responsible for any damage or injury due to improper use or any use other than the intended usage indicated in this manual.

Installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with best practices and in compliance with applicable regulations.



Before installing the product, make sure it is in perfect condition.

A switch or an omnipolar cut-off switch with a contact opening of at least 3 mm must be installed on the mains power line.

Ensure that an adequate residual current circuit breaker and a suitable overcurrent cut-out are installed ahead of the electrical installation in accordance with best practices and in compliance with applicable legislation.

The European standards EN 12453 and EN 12445 define the minimum safety requirements for the operation of automatic doors and gates. In particular, these standards require the use of force limiting and safety devices (sensing ground plates, photocell barriers, operator detection function etc.) intended to detect persons or objects in the operating area and prevent collisions in all circumstances.

Where the safety of the installation is based on an impact force limiting system, it is necessary to verify that the characteristics and performance of the automation system are compliant with the requisites of applicable standards and legislation.

The installer is required to measure impact forces and programme the control unit with appropriate speed and torque values to ensure that the door or gate remains within the limits defined by the standards EN 12453 and EN 12445.

Ensure that an adequate residual current circuit breaker and a suitable overcurrent cut-out are installed ahead of the electrical installation in accordance with best practices and in compliance with applicable legislation.

When requested, connect the automation to an effective earthing system that complies with current safety standards.

Disconnect the mains electrical power before performing any work. Also disconnect any buffer batteries used.

Only use original spare parts when repairing or replacing products.

The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

2 Product description

The 36 V **EDGE1** control unit controls 1 or 2 ROGER brushless motors in sensorless mode for applications on large sized or heavy gate wings.



Ensure that the parameter A1 is set correctly. If this parameter is not set correctly, the automation system may not function properly.

Use the same type of motor for both gate leaves in automation installations for double leaf swing gates.

Adjust the opening and closure speed, deceleration and delay settings appropriately for the specific installation, ensuring that the gate leaves overlap correctly.

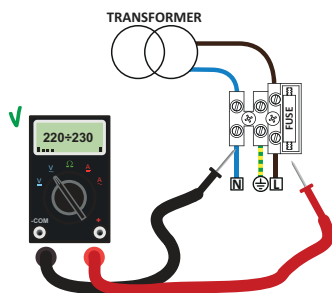
We recommend using only ROGER TECHNOLOGY accessories and control and safety devices. Specifically, we recommend installing **R90/F4ES**, **G90/F4ES** or **T90/F4S** series photocells.

3 Technical characteristics of product

	EDGE1/BOX	EDGE1/115/BOX
MAINS POWER VOLTAGE	230 Vac \pm 10% 50 Hz	115 Vac \pm 10% 60 Hz
MAXIMUM MAINS POWER ABSORPTION	600 W	
FUSES	F1 = 20A (ATO257) motor power circuit protection. F2 = 4A (ATO257) electric lock protection F3 = 3A (ATO257) accessories power supply protection F4 = T2A (5x20 mm) primary transformer coil protection	
CONNECTABLE MOTORS	2	
MOTOR POWER SUPPLY	36 Vac , with self-protected inverter	
MOTOR TYPE	sinusoidal drive brushless (ROGER BRUSHLESS)	
MOTOR CONTROL TYPE	sensorless field oriented control (FOC)	
RATED MOTOR POWER	60 W	
MAXIMUM MOTOR POWER	250 W	
MAXIMUM POWER, FLASHING LIGHT	25 W (24 Vdc)	
FLASHING LIGHT DUTY CYCLE	50%	
MAXIMUM POWER	100 W 230 Vac - 40 W 24 Vac/dc (potential free contact)	
GATE OPEN LIGHT POWER	3 W (24 Vdc)	
ELECTRIC LOCK POWER	15 W (12 Vdc)	
MAXIMUM ACCESSORY CURRENT ABSORPTION	20 W (24 Vdc)	
OPERATING TEMPERATURE	 -20°C  +55°C	
DEGREE OF PROTECTION	IP54	
PRODUCT DIMENSION	dimensions in mm 330x230x115 Weight: 3,9 kg	

4 Description of connections

Figure 1 shows connection diagrams.



Measure the voltage on the primary mains power connection with a tester. For the Brushless automation system to function correctly, the mains power voltage must be at least 230Vac (115 Vac) \pm 10%. If the voltage measured is not as indicated above or is unstable, the automation system may not work correctly.

4.1 Electrical connections

CONNECTING CONTROL UNIT TO MAINS ELECTRICITY

Power supply 230 Vac $\pm 10\%$ (115 Vac $\pm 10\%$ EDGE1/115/BOX)

CONNECTING CONTROL PANEL TO MOTORS	L cable	
	1÷10 m	10÷30 m
Motor 1	3x2,5 mm ²	3x4 mm ²
Motor 2	3x2,5 mm ²	3x4 mm ²

CONNECTING CONTROL PANEL TO ACCESSORIES	L cable = 1÷20 m
Photocells - Receiver	4x0,5 mm ²
Photocells - Transmitter	2x0,5 mm ²
Keypad H85/TDS - H85/TTD (connecting to control panel to decoder board H85/DEC-H85/DEC2)	3x0,5 mm ²
Key selector R85/60	3x0,5 mm ²

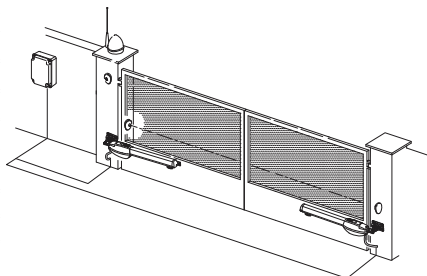
CONNECTING CONTROL PANEL TO FLASHING LIGHT

Power supply 24 Vdc by LED (25 W power - Duty cycle 50%) 2x1 mm² (max 10 m)

CONNECTING CONTROL PANEL TO ACCESSORIES	L cable
	1÷20 m
Power supply 24 Vdc (3 W max)	2x0,5 mm ²

CONNECTING CONTROL PANEL TO COURTESY LIGHT	L cable
	1÷20 m
Power supply 230 Vac (100 W)	2x1 mm ²

CONNECTING CONTROL PANEL TO ANTENNA	
Cable type RG58	max 10 m



SUGGESTIONS: in the case of a new installation, we recommend using cables with a cross section of 3x2.5 mm² and not exceeding 10 m in length to connect the motor with the control unit.

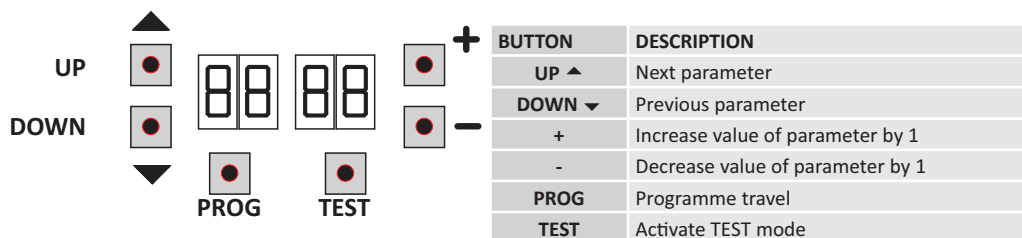
With existing installations, we recommend checking the cross section of the cables and that the cables themselves are in good condition.

WARNING: old cables or previous generation cables, especially if with a cross section of 3x1.5mm², may impair the performance of the digital brushless motor.

N.B.: Using 3x1.5mm² cables is NOT recommended.

	DESCRIPTION
	<p>Mains power supply 230 Vac $\pm 10\%$ 50 Hz connection. (EDGE1/115/BOX: 115 Vac $\pm 10\%$ 60Hz).</p> <p>Fuse 5x20 T2A.</p>
	<p>Secondary transformer input for 26 V AC motor power (SEC1) and for 19 V power to logical control and peripheral devices (SEC2).</p> <p>N.B.: Ready wired in factory by ROGER TECHNOLOGY.</p>
<p>X-Y-Z</p>	<p>Connection to ROGER brushless MOTOR 1.</p> <p>Warning! If the motor rotates in the wrong direction, simply swap any two of the three motor connectors.</p> <p>Check the connections illustrated in fig. 1.</p>
<p>Z-Y-X</p>	<p>Connection to ROGER brushless MOTOR 2.</p> <p>Warning! If the motor rotates in the wrong direction, simply swap any two of the three motor connectors.</p> <p>Check the connections illustrated in fig. 1.</p>
<p>BATTERY</p>	<p>Connection to B71/BCHP (see fig. 7)</p> <p>① <u>See instructions for B71/BCHP for further information.</u></p>

5 Function buttons and display



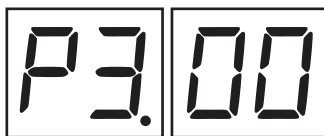
- Press the UP ▲ and/or DOWN ▼ buttons to view the parameter you intend to modify.
- Use the + and - buttons to modify the value of the parameter. The value starts to flash.
- Press and hold the + or - button to scroll quickly through values, to modify the parameter more quickly.
- To save the new value, wait a few seconds or move onto another parameter with the UP ▲ or DOWN ▼ button. The display flashes rapidly to indicate that the new value has been saved.
- Parameters can only be modified while the motor is not running. Parameters can be viewed at any time.

6 Switching on or commissioning

Power the control unit.

The firmware version of the control unit is displayed briefly.

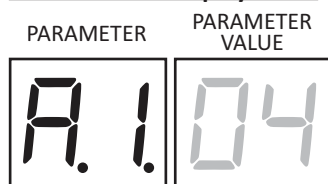
Version installed: P3.00.



Immediately afterwards, the displays enters the commands and safety device status mode. See chapter 7.

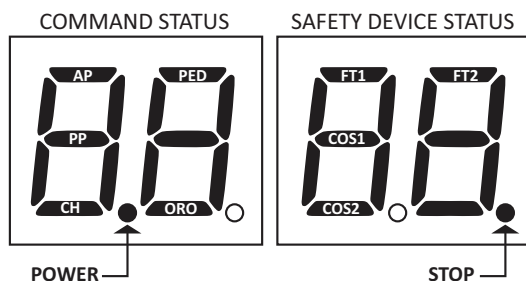
7 Display function modes

7.1 Parameter display mode



See chapter 10 for detailed descriptions of the parameters.

7.2 Command and safety device status display mode



COMMAND STATUS:

The command status indicators on the display (segments **AP** = open, **PP** = step mode, **CH** = close, **PED** = partial opening, **ORO** = clock) are normally off. They illuminate when a command is received (e.g.: when a step mode command is received, the segment **PP** illuminates).

SAFETY DEVICE STATUS:

The safety device status indicators on the display (segments **FT1/FT2**=photocells, **COS1/COS2** = sensing edges, **STOP**) are normally on. If an indicator is off, the relative device is

in alarm state or is not connected.

The an indicator is flashing, the relative device has been disabled with a specific parameter.

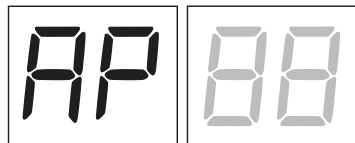
7.3 TEST mode

The TEST mode is used to test activation of the commands and safety devices with visual confirmation.

To activate the mode, press the TEST button with the automatic gate system at rest. If the gate is moving, pressing TEST stops the gate. Pressing the button again enables TEST mode.

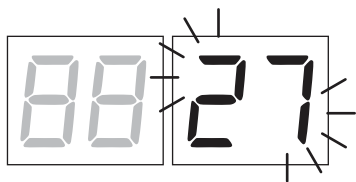
If the flashing light and the gate open indicator lamp illuminate for one second each time a control is used or a safety device is activated.

The command signal status is shown on the left hand side of the display for 5 seconds, ONLY when the respective command signal is active (AP, CH, PP, PE, OR). For example, if the gate open command is activated, the letters AP appear on the display.



The status of the safety devices/inputs is shown on the right hand side of the display. The number of the terminal relative to the safety device in alarm state flashes.

Example: STOP contact in alarm state.



00	No safety device in alarm state, and no limit switch activated
27	STOP.
25	Sensing edge COS1.
24	Sensing edge COS2.
23	Photocell FT1.
22	Photocell FT2.

NOTA: If one or more contacts are open, the gate will not open or close.

If more than one safety device is in alarm state, once the problem relative to the first device is resolved, the alarm for the next device is displayed. Any further alarm states are also displayed with the same logic.

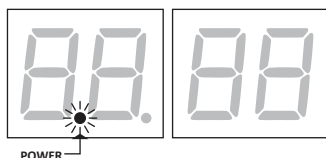
Press the TEST button again to exit test mode.

After 10 seconds with no user input, the display returns to command and safety device state display mode.

7.4 Standby mode

This mode is activated after 30 minutes with no user input. The POWER LED flashes slowly.

Press UP ▲, DOWN ▼, +, = to reactivate the control unit.



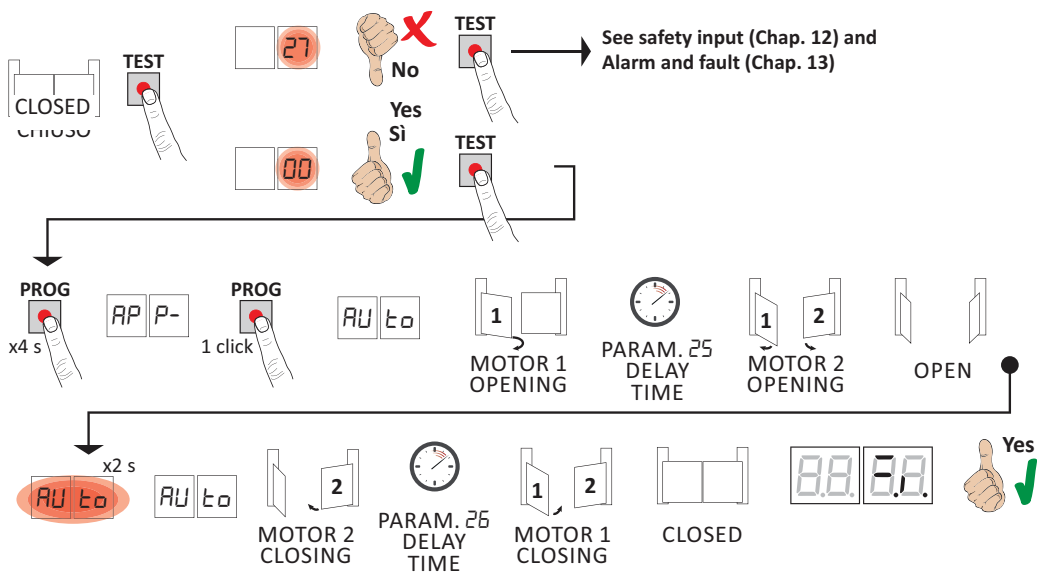
8 Travel acquisition

For the system to function correctly, the gate travel must be acquired by the control.

Before starting:

1. Select the automation system model installed with the parameter $R1$. The default setting for this parameter is motor type BR21.
2. With **SMARTY REVERSIBLE** $R1$ 05 automation systems, enable the reversible function of the motor 64 01 and enable the encoder 71 01.
3. With **SMARTY IRREVERSIBLE** $R1$ 05 automation systems with absolute encoder installed (**SMARTY/EMA**), enable 71 01.
4. Select the number of motors installed with the parameter 70. This parameter is set for two motors by default.
5. Check that the operator present function is not enabled ($R7$ 00).
6. Install mechanical stops in both the open and closed positions.
7. Move the gate into the closed position. The gate leaves must be against the mechanical stops.
8. Press **TEST** (see TEST mode in chapter 7) and check the command signal and safety device states. If any safety devices are not installed, jumper the relative contact or disable the device from the relative parameter (50, 51, 53, 54, 73 and 74).

ACQUISITION PROCEDURE:



- Press and hold **PROG** for 4 seconds. $AP P-$ is shown on the display.
- Press **PROG** again. $AU t0$ is shown on the display.
- MOTOR 1 starts opening at low speed.
- After the delay time set with parameter 25 (with a default time setting of 3 s), MOTOR 2 starts an opening manoeuvre.
- Once the gate open mechanical stop is reached, the gate stops briefly. The message $AU t0$ flashes on the display for 2 s.
- When the message $AU t0$ stops flashing and is steadily lit on the display, MOTOR 2 closes first and then, after a delay set with parameter 25 (default setting 5 s), MOTOR 1 closes until the gate closed mechanical stop is reached.

If the acquisition procedure is completed successfully, the display enters the command and safety device state display mode.

If the following error messages are shown on the display, repeat the acquisition procedure:

- $AP PE$: acquisition error. Press the TEST button to clear the error, and check the safety device in alarm state.
- $AP PL$: travel length error. Press the TEST button to clear the error, and check that both gate leaves are completely closed.

i For more information, see chapter 13 "Alarms and faults".

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10 Parameters menu

PARAMETER	PARAMETER VALUE

A1 04	Selecting automation system model WARNING! If this parameter is not set correctly, the automation system may not function properly. N.B.: in the event of a reset to restore the default parameters, this parameter must be set again manually.
01	BM20 series - Irreversible piston for gate leaf lengths up to 3 m.
02	BR20 series - Irreversible piston for gate leaf lengths from 2,5 to 3,5 m.
03	BH23 series - Gear motor with irreversible articulated arm for gate leaf lengths up to 2,8 m.
04	BR21 series - In-ground irreversible gear motor for gate leaf lengths up to 3,5 m.
05	SMARTY series - Irreversible piston for gate leaf lengths from 5 to 7 m.
06	SMARTY R series - Reversible piston for gate leaf lengths from 5 to 7 m.
A2 00	Automatic closure after pause time (from gate completely open)
00	Disabled.
01-15	From 1 to 15 of gate closure attempts after photocell is triggered. Once the number of attempts set is reached, the gate remains open.
99	The gate tries to close indefinitely.
A3 00	Automatic gate closing after mains power outage
00	Disabled. The gate does not close automatically when mains power is restored.
01	Enabled. If the gate is NOT completely open, when mains power is restored, the gate closes after a 5 second warning signalled with the flashing light (independently of the value set with the parameter A5). The gate closes in "position recovery" mode (see chapter 16-17).
A4 00	Selecting step mode control function (PP)
00	Open-stop-close-stop-open-stop-close...
01	Condominium function: the gate opens and closes after the set automatic closing time. The automatic closing timer restarts if a new step mode command is received. Step mode commands are ignored while the gate is opening. This allows the gate to open completely and prevents the gate from closing when not required. If automatic closing is disabled (A2 00), the condominium function automatically attempts a closing manoeuvre A2 01.
02	Condominium function: the gate opens and closes after the set automatic closing time. The automatic closing timer does NOT restart if a new step mode command is received. Step mode commands are ignored while the gate is opening. This allows the gate to open completely and prevents the gate from closing when not required. If automatic closing is disabled (A2 00), the condominium function automatically attempts a closing manoeuvre A2 01.
03	Open-close-open-close.
04	Open-close-stop-open.

A5 00	Pre-flashing
00	Disabled. The flashing light is activated during opening and closing manoeuvres.
01-10	Flashing warning signal for 1 to 10 seconds prior to every manoeuvre.
99	5 second flashing warning signal prior to closing manoeuvre.
A6 00	Condominium function for partial open command (PED)
00	Disabled. The gate opens partially in step mode: open-stop-close-stop-open...
01	Enabled. Partial commands are ignored during gate opening.
A7 00	Enabling operator present function.
00	Disabled.
01	Enabled. The open (AP) or close (CH) button must be pressed continuously to operate the gate. The gate stops when the button is released.
A8 00	Gate open indicator / photocell test function and “battery saving”
00	The indicator is off when the gate is closed, and steadily lit during manoeuvres and when the gate is open.
01	The indicator flashes slowly during opening manoeuvres, and is lit steadily when the gate is completely open. It flashes quickly during closing manoeuvres. If the gate is stopped in an intermediate position, the lamp extinguishes twice every 15 seconds.
02	Set 02 if the output SC is used for the photocell test. See fig. 5.
03	Set to 03 if the output SC is used for the “battery saving” function. See fig. 6.
03	When the gate is completely open or closed, the control unit deactivates any accessories connected to terminal SC to reduce battery consumption.
04	Set to 04 if the output SC is used for the “battery saving” function and photocell test function. See fig. 6.
11 04	Setting deceleration MOTOR 1
12 04	Setting deceleration MOTOR 2
01-05	01= the gate decelerates near stops and the limit switch (if installed). ... 05= the gate decelerates long before stops and the limit switch (if installed).
13 10	Adjusting LEAF 1 position control when completely opens or closes The value selected must ensure that LEAF 1 is opened/closed correctly when it reaches the respective (open or closed) mechanical stop. The position of LEAF 1 is calculated by the system from the number of motor revolutions and the motor reduction gear ratio. Warning! Excessively low values cause the gate to reverse when it reaches the gate open stop. N.B.: with BR21 automation systems, with the gate leaf in the completely closed position, adjust the inner mechanical stop so that the lever of the gear motor can move by a few millimetres.
14 10	Adjusting LEAF 2 position control when completely opens or closes The value selected must ensure that LEAF 2 is opened/closed correctly when it reaches the respective (open or closed) mechanical stop. The position of LEAF 2 is calculated by the system from the number of motor revolutions and the motor reduction gear ratio. Warning! Excessively low values cause the gate to reverse when it reaches the gate closed stop. N.B.: with BR21 automation systems, with the gate leaf in the completely closed position, adjust the inner mechanical stop so that the lever of the gear motor can move by a few millimetres.
01-20	Motor revolutions (01 = minimum / 20 = maximum).
15 99	Partial opening adjustment (%) N.B.: with double leaf swing gate installations, this parameter is set by default as the completely open position of LEAF 1. With single leaf swing gate installations, this parameter is set to 50% of total opening.
15-99	From 15% to 99% of total gate travel.

19 00	Adjusting stop advance of LEAF 1 when opening
20 00	Adjusting stop advance of LEAF 2 when opening
00	The leaf stops against the opening stop.
01-25	A leaf stop advance of 1 to 25 motor turns before the completely open position may be set.
21 30	Setting automatic closing time The timer starts from the gate open state and continues for the set time. Once the set time is reached, the gate closes automatically. The timer count restarts if a photocell is triggered.
00-90	Pause time settable from 00 to 90 s.
92-99	Pause time settable from 2 to 9 min.
25 03	Adjusting opening delay of MOTOR 2 During opening, MOTOR 2 starts with an adjustable delay after MOTOR 1.
00-10	From 0 to 10 s.
26 05	Adjusting closing delay of MOTOR 1 During closing, MOTOR 1 starts with an adjustable delay after MOTOR 2.
00-30	From 0 to 30 s.
27 03	Setting reverse time after activation of sensing edge or obstacle detection (crush prevention). This sets the reverse manoeuvre time after activation of the sensing edge or the obstacle detection system.
00-60	From 0 to 60 s.
28 00	Electric lock mode selection
00	Normally UNPOWERED electric lock (powered only for 3 s when opening starts). N.B.: The electric lock is enabled by parameter 29.
01	“ventouse” type electric block (normally powered when the gate is completely closed). Not powered when gate is moving.
02	“ventouse” type electric block (normally powered when the gate is completely opened or completely closed). Not powered when gate is moving.
29 00	Enable electric lock
00	Disabled.
01	Enabled. When LEAF 1 approaches the gate closed stop, the controller delivers supplementary power to MOTOR 1 to latch the electric lock.
02	Enabled. When LEAF 1 approaches the gate closed stop, the controller delivers maximum power to MOTOR 1 to latch the electric lock. The obstacle detection system is disabled.
30 07	Setting motor torque Increasing or decreasing the value of the parameter increases or decreases motor torque and, as a result, adjusts obstacle detection sensitivity. Use values below 03 SOLO ONLY for particularly lightweight installations not exposed to severe weather conditions (strong winds or very cold temperatures). In installations with gate leaves of different lengths, they torque value may be set separately, setting a value for parameter 33 between 01 and 09.
01-09	01= -35%; 02= -25%; 03= -16%; 04= -8% (reduced motor torque = increased sensitivity). 05= 0%. 06= +8%; 07= +16%; 08= +25%; 09= +35% (increased motor torque = reduced sensitivity).

31 15	Setting obstacle impact force sensitivity MOTOR 1 If the reaction time to obstacle impact force is too long, reduce the value of the parameter. If the impact force exerted on obstacles is too high, reduce the value of parameter 30. N.B.: repeat the acquisition procedure after any change made to this parameter.
0 1- 10	Low motor torque: 01 = minimum obstacle impact force ... 10 = maximum obstacle impact force N.B.: only use these settings if the medium motor torque values are not suitable for the installation.
1 1- 19	Medium motor torque. Recommended setting for adjusting force settings correctly. 11 = minimum obstacle impact force ... 19 = maximum obstacle impact force.
20	Maximum motor torque. May only be used if the gate is equipped with a sensing edge.
32 15	Setting obstacle impact force sensitivity MOTOR 2 If the reaction time to obstacle impact force is too long, reduce the value of the parameter. If the impact force exerted on obstacles is too high, reduce the value of parameter 30 (or 33, if enabled: 33 different from 10). N.B.: repeat the acquisition procedure after any change made to this parameter.
0 1- 10	Low motor torque: 01 = minimum obstacle impact force ... 10 = maximum obstacle impact force N.B.: only use these settings if the medium motor torque values are not suitable for the installation.
1 1- 19	Medium motor torque. Recommended setting for adjusting force settings correctly. 11 = minimum obstacle impact force ... 19 = maximum obstacle impact force.
20	Maximum motor torque. May only be used if the gate is equipped with a sensing edge.
33 10	Setting motor torque MOTOR 2 Increasing or decreasing the value of the parameter increases or decreases motor torque and, as a result, adjusts obstacle detection sensitivity. Use values below 03 SOLO ONLY for particularly lightweight installations not exposed to severe weather conditions (strong winds or very cold temperatures).
0 1- 09	01= -35%; 02= -25%; 03= -16%; 04= -8% (reduced motor torque = increased sensitivity). 05= 0%. 06= +8%; 07= +16%; 08= +25%; 09= +35% (increased motor torque = reduced sensitivity).
10	The torque is set with parameter 30.
34 08	Setting start acceleration MOTOR 1
35 08	Setting start acceleration MOTOR 2
0 1- 10	01= the gate accelerates rapidly at start of manoeuvre. ... 10= the gate accelerates slowly and progressively at start of manoeuvre.
38 00	Enable electric lock release reverse impulse
00	Disabled.
0 1	Enabled. The controller applies a brief closing force (max. 4 s) to release the electric lock.
40 04	Setting opening speed (%)
41 04	Setting closing speed (%)
0 1- 05	01= 60% minimum speed ... 05= 100% maximum speed.
49 01	Setting number of automatic closure attempts after activation of sensing edge or obstacle detection (crush protection)
00	No automatic closure attempts.
0 1- 03	From 1 to 3 automatic closure attempts. We recommend setting a value equal to or lower than the value set for parameter A2. Automatic closure is only performed if the gate is completely open.

50 00	Setting photocell mode during gate opening (FT1)
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate opening.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed opening when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate closes when the photocell is cleared.

51 02	Setting photocell mode during gate closing (FT1)
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate closure.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed closing when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate opens when the photocell is cleared.

52 01	Photocell (FT1) mode with gate closed
00	If the photocell is obstructed, the gate cannot open.
01	The gate opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the gate open command when obstructed.


53 00	Setting photocell mode during gate opening (FT2)
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate opening.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed opening when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate closes when the photocell is cleared.

54 00	Setting photocell mode during gate closing (FT2)
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate closure.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed closing when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate opens when the photocell is cleared.

55 01	Photocell (FT2) mode with gate closed
00	If the photocell is obstructed, the gate cannot open.
01	The gate opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the gate open command when obstructed.

56 00	Enable close command 6 s after activation of photocell (FT1-FT2) N.B.: This parameter is not visible if AB 03 or AB 04 is set.
00	Disabled.
01	Enabled. When the photocell gate FT1 is crossed, a close command is sent 6 seconds later.
02	Enabled. When the photocell gate FT2 is crossed, a close command is sent 6 seconds later.

57 00	Selecting contact type (NC or 8.2 kOhm) on inputs FT1/FT2/ST In conformity with the safety regulations EN12453-EN12445, devices using an 8.2 kOhm contact instead of an NC contact may be connected to inputs FT1/FT2/ST. The controller unit must therefore be configured accordingly.		
	FT1	FT2	ST
00	The controller is configured for NC contacts by default.		
01	8k2	N.C.	N.C.
02	N.C.	8k2	N.C.
03	8k2	8k2	N.C.
10	N.C.	N.C.	8k2
11	8k2	N.C.	8k2
12	N.C.	8k2	8k2
13	8k2	8k2	8k2

64 00	Managing reversible function of motor (SMARTY REVERSIBLE only)  This parameter is visible ONLY if A1 06 . NOTE: Even though it is a REVERSIBLE unit, the motor is equipped with a lock release system.
00	Disabled. The SMARTY motor is always REVERSIBLE . The gate leaf may be moved manually in either direction (open or close) without unlocking the motor, with or without mains power, when the motor is not running.
01	Enabled. When the controller is powered, a small current is supplied to the SMARTY REVERSIBLE motor to hold it in position when the gate leaf is stationary. When the controller is not powered, the leaf may be moved manually without unlocking the motor. IMPORTANT! Always disconnect from mains power and (if applicable) battery power before disconnecting the terminal board of the motor from the controller or disconnecting any of the motor wires.

65 05	Setting motor stop distance
01-05	01= faster deceleration/shorter stop distance ... 05= slower deceleration/longer stop distance.

70 02	Select number of motors installed
01	1 motor.
02	2 motors. IMPORTANT: Use the same type of motor for both gate leaves.

71 00	Enabling absolute encoder (SMARTY Series automation systems only) Attention: the parameter 71 01 must be set for all applications with the SMARTY REVERSIBLE motor. N.B.: The error message <i>dRÆA</i> is shown on the display whenever this parameter is modified. Press PROG and repeat the acquisition procedure.
00	Disabled.
01	Enabled. Perform or repeat the acquisition procedure to acquire the parameters relative to the installation. N.B.: see chapter 11 for more information on the absolute encoder.

73 03	Configuring sensing edge COS1
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The gate reverses only when opening.
02	Contact with 8k2 resistor. The gate reverses only when opening.
03	NC contact (normally closed). The gate always reverses.
04	Contact with 8k2 resistor. The gate always reverses.

74 00	Configuring sensing edge COS2
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The gate reverses only when closing.
02	Contact with 8k2 resistor. The gate reverses only when closing.
03	NC contact (normally closed). The gate always reverses.
04	Contact with 8k2 resistor. The gate always reverses.

76 00	Configuring radio channel 1 (PR1)
77 01	Configuring radio channel 2 (PR2)
00	STEP MODE.
01	PARTIAL OPENING
02	OPENING
03	CLOSING.
04	STOP.
05	Courtesy light. The output COR is managed from the remote control. The light remains lit as long as the remote control is active. The parameter 79 is ignored.
06	Courtesy light ON-OFF (PP). The output COR is managed from the remote control. The remote control turns the courtesy light on and off. The parameter 79 is ignored.
07	STEP MODE with confirmation for safety. ⁽¹⁾
08	PARTIAL OPENING with confirmation for safety. ⁽¹⁾
09	OPENING with confirmation for safety. ⁽¹⁾
10	CLOSURE with confirmation for safety. ⁽¹⁾

⁽¹⁾ To prevent gate manoeuvres caused by accidentally pressing a remote control button, confirmation is required to enable the command. Example: parameters 76 07 and 77 01 set:

- Pressing the CHA button on the remote control selects the step mode function, which must be confirmed within 2 seconds by pressing CHB on the remote control. Press CHB to activate partial opening.

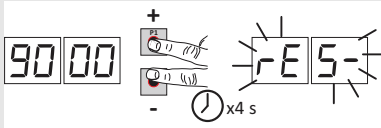
78 00	Configuring flashing light frequency
00	The frequency is set electronically from the flashing light unit.
01	Slow flash.
02	Light flashes slowly when gate opens, rapidly when gate closes.

79 60	Selecting courtesy light mode
00	Disabled.
01	PULSE. The courtesy light illuminates briefly at the start of each manoeuvre.
02	ACTIVE. The light remains lit for the entire duration of the manoeuvre.
03-90	From 3 to 90 s. The light remains lit for the time period set after the manoeuvre is completed.
92-99	From 2 to 9 minutes. The light remains lit for the time period set after the manoeuvre is completed.

80 00	Clock contact configuration (ORO)
When the clock function is active, the gate opens and remains open. At the end of the programmed time set with the external device (clock), the gate closes.	
00	When the clock function is active, the gate opens and remains open. Any command signal received is ignored.
01	When the clock function is active, the gate opens and remains open. Any command signal received is accepted. When the gate returns to the completely open position, the clock function is reactivated.

81 00	Enable safeguarded gate closure/opening Enabling this parameter ensures that the gate is not left open due to an incorrect and/or accidental command. This function is <u>NOT</u> enabled if: <ul style="list-style-type: none"> the gate receives a STOP command; the sensing edge is activated; the number of closure attempts set by parameter <i>B2</i> has been reached; the acquired position is lost (perform position recovery, see chapter 16-17).
00	Disabled. The parameter <i>B2</i> is not displayed.
01	Safeguarded closure enabled. After a period of time set with parameter <i>B2</i> , the control unit signals a 5 second warning with the flashing light, regardless of the parameter <i>B5</i> , and then closes the gate.
02	Safeguarded closure / opening enabled. If the gate is closed as a result of a step mode command, after a period of time set with parameter <i>B2</i> , the control unit signals a 5 second warning with the flashing light (regardless of the parameter <i>B5</i>), and then the gate closes. If the gate is stopped by the obstacle detection system during a closure manoeuvre, the gate closes after a period of time set with parameter <i>B2</i> . If the gate is stopped by the obstacle detection system during an opening manoeuvre, the gate closes after a period of time set with parameter <i>B2</i> .
82 03	Setting safeguarded closure/opening activation time N.B.: this parameter is not visible if the value of parameter <i>B1</i> = 00.
02-90	Wait time settable from 2 to 90 s.
92-99	Wait time settable from 2 to 9 min.
85 02	Reduced performance for battery power mode To prevent problems in battery power mode caused by excessively high acceleration and speed settings, the controller unit automatically reduces performance when it detects that mains power is absent.
00	No reduction. The acceleration (34/35), deceleration (11/12) and speed (40/41) parameters configured are maintained.
01	BASIC reduced performance mode. Acceleration 34/35 slow= 08. Deceleration 11/12 gradual= 04. Speed 40/41 70% 02.
02	ADVANCED reduced performance mode. Acceleration 34/35 slow= 08. Deceleration 11/12 gradual= 04. Speed 40/41 60% 02.
86 00	Enable maintenance alarm N.B: Parameter visible if any password other than the default password is set (Parameter <i>P1</i> =P4). N.B.: in the event of a reset to restore the default parameters, this parameter must be set again manually. The maintenance alarm is activated when the value exceeds the hour limit set with parameters <i>B6</i> and <i>B7</i> (example: each 1500 manoeuvre hours). The message <i>ASSL</i> is shown on the display and the flashing light, with the motors stop, flashes with a regular duty cycle (1 s on / 4 s off) until system maintenance is performed and the alarm is reset. Press and hold TEST for 5 s to reset the alarm. The message <i>ASSL</i> is displayed, followed by the messages <i>UPdE</i> flashing for 4 seconds: to reset the alarm, hold down the TEST key until <i>donE</i> is displayed. If the TEST key is released, <i>AbtE</i> appears on the display and the alarm is not reset. The number of hours is saved by the control unit and the counter restarts.
00	Disabled. When 9990 hours of operation are exceeded, the maintenance alarm is disabled entirely.
01	Maintenance enabled for a period = parameter value <i>B7</i> x10 hours.
02	Maintenance enabled for a period = parameter value <i>B7</i> x100 hours.

87 00	Maintenance alarm hour counter setting N.B.: Parameter visible with parameter 86 01 or 86 02. N.B.: in the event of a reset to restore the default parameters, this parameter must be set again manually.
00	Disabled.
01-99	from 10 to 990 hours with parameter 86 01. from 100 to 9900 hours with parameter 86 02. Maximum limit: 9990 hours (beyond this value the maintenance alarm is disabled entirely).

90 00	Restoring factory default values NOTE This procedure is only possible if NO data protection password is set.
 <p>Warning! Restoring default settings cancels all settings made previously except for parameter A1; after restore, check that all parameters are suitable for the installation.</p> <p>The default factory settings may also be restored using the + (PLUS) and/or - (MINUS) buttons as follows:</p> <ul style="list-style-type: none"> • Turn off the power. • Press and hold the + (PLUS) and/or - (MINUS) button until the unit switches on. • The display flashes after 4 s rE5-. • The default factory settings have now been restored. 	

Identification number The identification number consists of the values of the parameters from n0 to n6. N.B.: The values shown in the table are indicative only.	
n0 01	HW version.
n1 23	Year of manufacture.
n2 45	Week of manufacture.
n3 67	Example: 01 23 45 67 89 01 23
n4 89	
n5 01	
n6 23	

View manoeuvre counter The number consists of the values of the parameters from a0 to a1 multiplied by 100. N.B.: The values shown in the table are indicative only.	
a0 01	Manoeuvres performed.
a1 23	Example: 01 23 x100 = 12.300 manoeuvres.

View manoeuvre hour counter

The number consists of the values of the parameters from $h0$ to $h1$.

N.B.: The values shown in the table are indicative only.

The maintenance alarm is activated when the value exceeds the hour limit set with parameters $B5$ and $B7$ (Example: each 1500 manoeuvre hours).

The message $R55E$ is shown on the display and the flashing light, with motors stop, flashes with a regular duty cycle (1 s on / 4 s off) until system maintenance is performed and the alarm is reset.

Press and hold TEST for 5 s to reset the alarm. The message $R55E$ is displayed, followed by the messages $UPdE$ flashing for 4 seconds: to reset the alarm, hold down the TEST key until $donE$ is displayed.

If the TEST key is released, $RbrE$ appears on the display and the alarm is not reset.

The number of hours is saved by the control unit and the counter restarts.

If the value $H0=99$ $H1=90$ is exceeded (9990 hours of operation) the maintenance alarm is no longer managed.

$h0$ 01

Manoeuvre hours.

$h1$ 23

Example: 01 23 = 123 hours.

View control unit days on counter

The number consists of the values of the parameters from $d0$ to $d1$.

N.B.: The values shown in the table are indicative only.

$d0$ 01

Days with unit switched on.

$d1$ 23

Example: 01 23 = 123 days.

Password

Setting a password prevents unauthorised persons from accessing the settings.

With password protection active ($CP=01$), parameters may be viewed, but the values CANNOT be modified.

Only a single password is used to control access to the gate automation system.

WARNING: Contact the Technical Support Service if you lose your password.

$P1$ 00

$P2$ 00

$P3$ 00

$P4$ 00

Password activation procedure:

- Enter the desired values for parameters $P1$, $P2$, $P3$ and $P4$.
- Use the UP ▲ and/or DOWN ▼ buttons to view the parameter CP .
- Press and hold the + and - buttons for 4 seconds.
- The display flashes to confirm that the password has been saved.
- Switch the control unit off and on again. Check that password protection is activated ($CP=01$).

Temporary unlock procedure:

- Enter the password.
- Check that $CP=00$.

Password cancellation procedure:

- Enter the password ($CP=00$).
- Save the values $P1$, $P2$, $P3$, $P4 = 00$
- Use the UP ▲ and/or DOWN ▼ buttons to view the parameter CP .
- Press and hold the + and - buttons for 4 seconds.
- The display flashes to confirm that the password has been cancelled (the values $P1$ 00, $P2$ 00, $P3$ 00 and $P4$ 00 indicate that no password is set).
- Switch the control unit off and on again ($CP=00$).

CP 00

Changing password


00

Protection deactivated.


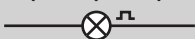






01









Protection activated.

11 Commands and Accessories

 If not installed, safety devices with NC contacts must be jumpered at the COM terminals, or disabled by modifying the parameters **50**, **51**, **53**, **54**, **73** and **74**.

KEY: N.A. (Normally Open) .
N.C. (Normally Closed).

CONTACT	DESCRIPTION
13 (COR) 14 	Output (potential free contact) for connecting courtesy light. 230 Vac 100 W - 24 Vac/dc 40 W (fig. 3).
16(+LAM) 15(COM) 	Connection for flashing light (24 Vdc - duty cycle 50%) (fig. 2). The settings for the pre-manoeuve flashing warning signal may be selected with parameter R5 , while the flashing mode is set with parameter 7B .
17(+ES) 15(COM) 	Input for connecting electric lock, 12 Vdc max. 15 W (fig. 2). The function of the electric lock is determined by parameter 29 .
18(+24V) 15(COM)	Power feed for external devices. See technical characteristics.
20(SC) 19(COM) 	Connection for gate open indicator lamp. 24 Vdc 3 W (fig. 2). The function of the indicator lamp is determined by parameter AB .
20(SC) 19(COM) 	Photocell test connection and/or battery saving (fig. 5 and 6). The power feed for the photocell transmitters (TX) may be connected to this. Set the parameter AB 02 to enable the test function. Each time a command is received, the control unit switches the photocells off and on to check that the contact changes state correctly. Power feeds for all external devices may be connected to reduce battery consumption (if batteries are used). Set AB 03 or AB 04 . WARNING! If contact 20 (SC) is used for the photocell test function or battery saving function, a gate open indicator lamp cannot be connected.
22(FT2) 21(COM) 	Input (N.C. or 8.2 kOhm) for connecting photocells FT2 (fig. 4-5-6). The photocells FT2 are configured by default with the following settings: <ul style="list-style-type: none"> – 53 00 . Photocell FT2 disabled when gate is opening. – 54 00 . Photocell FT2 disabled when gate is closing. – 55 01 . The gate opens when an open command is received if photocell FT2 is obstructed. – 57 00 . NC (normally closed) incoming contact. If the photocells are not installed, jumper the terminals 21(COM) - 22(FT2) or set the parameters 53 00 and 54 00 . WARNING! Use R90/F4ES , G90/F4ES or T90/F4S series photocells.
23(FT1) 21(COM) 	Input (N.C. or 8.2 kOhm) for connecting photocells FT1 (fig. 4-5-6). The photocells FT1 are configured by default with the following settings: <ul style="list-style-type: none"> – 50 00 . Photocell triggers only during gate closure. Photocell is ignored during gate opening. – 51 02 . Movement is reversed if the photocell is triggered during gate closure. – 52 01 . The gate opens when an open command is received if photocell FT1 is obstructed. – 57 00 . NC (normally closed) incoming contact. If the photocells are not installed, jumper the terminals 23(FT1) - 21(COM) or set the parameters 50 00 and 51 02 . WARNING! Use R90/F4ES , G90/F4ES or T90/F4S series photocells.
24(COS2) 26(COM) 	Input (NC or 8 kOhm) for connecting sensing edge COS2 . The sensing edge is configured by default with the following settings: <ul style="list-style-type: none"> – 74 00 . The sensing edge COS2 (NC contact) is disabled. If the sensing edge is not installed, jumper the terminals 24(COS2) - 26(COM) or set the parameter 74 00 .

CONTACT	DESCRIPTION
25(COS1) 26(COM) 	Input (NC or 8 kOhm) for connecting sensing edge COS1 (fig. 2). The sensing edge is configured by default with the following settings: – 73 03. If the sensing edge COS1 (NC contact) is enabled, the gate always reverses. If the sensing edge is not installed, jumper the terminals 25(COS1) - 26(COM) or set the parameter 73 00.
27(ST) 26(COM) 	STOP command input (N.C. or 8.2 kOhm). The current manoeuvre is arrested if the safety contact opens. N.B.: the controller is supplied with this contact already jumpered by ROGER TECHNOLOGY. – The contact is configured by default with the following settings: 57 00. (normally closed) incoming contact.
29 (ANT) 30 	Antenna connector for slot-in radio receiver board. Use RG58 if an external antenna is used; maximum recommended length: 10 m. N.B.: do not make joints in cable.
32(ORO) 31(COM) 	Clock timer contact input (N.O.). When the clock function is active, the gate opens and remains open. At the end of the programmed time set with the external device (clock), the gate closes.
33(AP) 37(COM) 	Open control signal input (N.O.).
34(CH) 37(COM) 	Close command input (N.O.).
35(PP) 37(COM) 	Step by step mode command input (N.O.). The function of the control is determined by parameter P4.
36(PED) 37(COM) 	Partial open control signal input (N.O.). On double leaf gate automation systems, by default, the partial opening command opens LEAF 1 completely. With single leaf swing gate installations, by default, partial opening is 50% of total opening.
ABSOLUTE ENCODER (SMARTY EMA)	Absolute encoder installed on SMARTY Series motors (see fig. 8). During travel acquisition, the encoder reading is acquired in the completely open and completely closed positions. During normal operation, the encoder reading is acquired at each motor start, except in the case of direction inversion due to activation of the sensing edge, the obstacle detection system or the photocells, or requested by the user with a command. N.B.: The absolute encoder is connected in parallel with the motor phases. Normally, the encoder will emit a short audible signal (whistle). If no audible signal is heard, the encoder may be disconnected, absent or damaged. For SMARTY REVERSIBLE : the encoder is already assembled and installed in the factory by ROGER TECHNOLOGY. For SMARTY IRREVERSIBLE : product code SMARTY/EMA is available for installing the encoder on the motor. Enable the encoder with the parameter 71 01 and perform the travel acquisition procedure.
RECEIVER CARD	Connector for plug-in radio receiver board. The control unit has two radio remote control functions by default: – PR1 - step mode command (modifiable with parameter 75). – PR2 - partial opening command (modifiable with parameter 77).

CONTACT	DESCRIPTION
BATTERY CHARGER B71/BCHP	(Fig. 7) In the event of a mains power loss, the control unit is powered by the batteries. When battery power is used, <i>bAtE</i> is shown on the display and the flashing light flashes briefly at intervals until mains power is restored or until the battery voltage drops below the minimum permissible limit. In this case, <i>bEL</i> (Battery Low) is shown on the display and the control unit accepts no commands. If mains power is lost while the gate is moving, the gate stops and then automatically resumes the interrupted manoeuvre after 2 seconds.
BATTERY KIT 2x12 Vdc 4,5 Ah (B71/BCHP/EXT)	N.B: in battery power mode, a fixed delay time of 1.5 s is applied even if delay times are disabled with parameters 25 and 26. To reduce battery consumption, the positive power feed wire of the photocell transmitters and receiver may be connected to terminal SC (see fig. 5-6). Set <i>AB</i> 03 or <i>AB</i> 04. In this configuration, the control unit disconnects power from the accessory devices when the gate is completely open or completely closed.
Only AGM type	WARNING! the batteries must always be connected to the electronic control unit in order to charge. Periodically (at least every 6 months), check that the batteries are in good working order.
	For more information, refer to the installation manual for the B71/BCHP battery charger.

12 Safety input and command status (TEST mode)

With no currently active commands, press the TEST button and check the following:

DISPLAY	POSSIBLE CAUSE	ACTION BY SOFTWARE	PHYSICAL CORRECTIVE ACTION
<i>BB</i> 27	The safety STOP contact is open. Incorrect setting of parameter 57.	Check that parameter 57 is set correctly	Install a STOP button (NC) or jumper the ST contact with the COM contact.
<i>BB</i> 25	Sensing edge COS1 not connected or incorrectly connected.	Set the parameter 73 00 if not used or to disable.	Jumper contact COS1 with contact COM , if not used or to disable
<i>BB</i> 24	Sensing edge COS2 not connected or incorrectly connected.	Set the parameter 74 00 if not used or to disable.	Jumper contact COS2 with contact COM , if not used or to disable.
<i>BB</i> 23	Photocell FT1 not connected or incorrectly connected. Incorrect setting of parameter 57.	Set the parameter 50 00 e 51 00 if not used or to disable.	Jumper contact FT1 with contact COM , if not used or to disable. Check connection referring to relative connection diagram (figure 4).
<i>BB</i> 22	Photocell FT2 not connected or incorrectly connected. Incorrect setting of parameter 57.	Set the parameter 53 00 e 54 00 if not used or to disable.	Jumper contact FT2 with contact COM , if not used or to disable. Check connection referring to relative connection diagram (figure 4).
<i>PP</i> 00	If occurs with no voluntary command, the contact (N.O.) may be faulty or one of the buttons may be incorrectly connected.	-	Check PP - COM contacts and connections to buttons.
<i>CH</i> 00		-	Check CH - COM contacts and connections to buttons.
<i>AP</i> 00		-	Check AP - COM contacts and connections to buttons.
<i>PE</i> 00		-	Check PED - COM contacts and connections to buttons.
<i>Or</i> 00	If occurs with no command, the contact (N.O.) may be faulty or the timer may be incorrectly connected.	-	Check ORO - COM contacts. Contact must not be jumpered if not used.

N.B: press TEST to exit TEST mode.

We recommend troubleshooting safety device and input status errors with "corrective action by software" only.

13 Alarms and faults

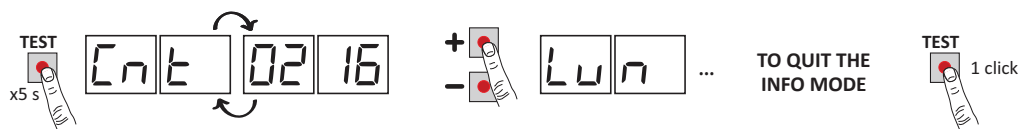
PROBLEM	ALARM	POSSIBLE CAUSE	ACTION
The gate does not open or close.	POWER LED off	No power.	Check power cable.
	POWER LED off	Fuses blown.	Replace fuse. Always disconnect from mains power before removing fuses.
	OF St	Input mains power voltage fault. Control initialisation failed.	Disconnect from mains power, wait 10 seconds then reconnect to the mains and switch on. We recommend replacing the control unit if the problem persists.
	Pr Ot	Overcurrent detected in inverter.	Press the TEST button twice or perform 3 command requests in succession.
	SECO	Incorrect connection between SEC1 and SEC2 of the transformer.	Swap the connection between SEC1 and SEC2.
	dAtA	Incorrect travel length values.	Press the TEST button and check the safety device/s in alarm state and the connections of the safety devices. Check that the mechanical stops of MOTOR 1 and MOTOR 2 are positioned correctly. Repeat acquisition procedure.
		Parameter 71 modified	The error message <i>dAtA</i> is shown on the display whenever this parameter is modified. Press PROG and repeat the acquisition procedure.
	Not 1	Motor 1 not connected.	Check the motor cable.
	Not 2	Motor 2 not connected.	Check the motor cable.
	FUSE	Fuse F1 blown or damaged. This message is not visible if controller is in battery power mode.	Replace fuse. Always disconnect from mains power before removing and refitting fuses.
	Example: 15 EE 21 EE	Configuration parameter error.	Set configuration value correctly and save.
	En 11	MOTOR 1 encoder not responding, absent or faulty.	Check encoder connection. Replacing the encoder is recommended if the problem persists.
	En 21	MOTOR 2 encoder not responding, absent or faulty.	Check encoder connection. Replacing the encoder is recommended if the problem persists.
	En 12	Communication error between controller and MOTOR 1 encoder.	Check connection of MOTOR 1.
	En 22	Communication error between controller and MOTOR 2 encoder.	Check connection of MOTOR 2.
	En 13	Minor malfunction of MOTOR 1 encoder.	Check connection of MOTOR 1. Check power voltage of controller.
	En 23	Minor malfunction of MOTOR 2 encoder.	Check connection of MOTOR 2. Check power voltage of controller.
	En 14	Encoder MOTOR 1 encoder magnet malfunction. Severe encoder error.	Replacing the encoder is recommended if the problem persists.
	En 24	Encoder MOTOR 2 encoder magnet malfunction. Severe encoder error.	Replacing the encoder is recommended if the problem persists.
	En 15	Position detected of MOTOR 1 incongruent with travel length.	Repeat acquisition procedure. Replacing the encoder is recommended if the problem persists.
	En 25	Position detected of MOTOR 2 incongruent with travel length.	Repeat acquisition procedure. Replacing the encoder is recommended if the problem persists.
	btLO (btLO)	Flat batteries.	Wait for mains power to be restored.

PROBLEM	ALARM	POSSIBLE CAUSE	ACTION
Acquisition procedure does not complete correctly.	<i>AP P.E</i>	TEST button pressed accidentally. Safety devices in alarm state.	Repeat acquisition procedure. Press the TEST button and check the safety device/s in alarm state and the connections of the safety devices.
		Excessive voltage drop.	Repeat acquisition procedure. Check mains voltage.
Acquisition procedure does not complete correctly.	<i>AP PL</i>	Travel length error.	Move gate into completely closed position and repeat the procedure.
Remote control has limited range and does not work while automated gate is moving.	-	The radio transmission is impeded by metal structures and reinforced concrete walls.	Install the antenna.
	-	Flat batteries.	Replace the transmitter batteries.
The flashing light is not working.	-	Bulb / LED blown or flashing light wires disconnected.	Check LED circuit and/or connector wires.
With gate stops, the flashing light flashes with a regular duty cycle (1 s on / 4 s off).	<i>ASSt</i> (ASSt)	Maintenance alarm.	Perform a maintenance programm. Press and hold TEST for 5 s to reset the alarm. The message <i>ASSt</i> is displayed, followed by the messages <i>UPdt</i> flashing for 4 seconds: to reset the alarm, hold down the TEST key until <i>donE</i> is displayed. If the TEST key is released, <i>AbtE</i> appears on the display and the alarm is not reset. The manoeuvre counter resets.
Message <i>POS</i> together with audible warning signal.	<i>POS 1</i> (POS1)	Notification that MOTOR 1 position reading is in progress.	At start of each manoeuvre, the control unit acquires the position of MOTOR 1. If the position is not read successfully, the message <i>En 1</i> is shown on the display.
	<i>POS2</i> (POS2)	Notification that MOTOR 2 position reading is in progress.	At start of each manoeuvre, the control unit acquires the position of MOTOR 2. If the position is not read successfully, the message <i>En2</i> is shown on the display.
Gate open indicator lamp does not work.	-	Bulb blown or wires disconnected.	Check the bulb and/or wires.
Gate does not perform desired manoeuvre.	-	Motor leads crossed.	Swap two wires on terminal X-Y-Z or Z-Y-X.

N.B.: Press the TEST button to temporarily cancel the alarm.

The next time a command is received, the alarm reappears on the display if the problem has not been resolved.

14 Procedural verifications - INFO Mode



INFO mode may be used to view certain parameters measured by the **EDGE1** controller.

Press and hold the **TEST** button for 5 seconds from the “View command signals and safety devices” mode with the motor stationary. The control unit displays the following parameters and the corresponding measured values in sequence:

Parameter	Function
<i>P3.00</i>	View for 3 s the firmware version of the control unit.
<i>Cnt 1</i> <i>Cnt 2</i>	Displays the position of MOTOR 1 / MOTOR 2, expressed in revolutions and relative to total length, at the time of the test.
<i>Lun 1</i> <i>Lun 2</i>	View total length of MOTOR 1/ MOTOR 2 programmed travel , in motor revolutions.
<i>rPn 1</i> <i>rPn 2</i>	View MOTOR 1 /MOTOR 2 speed, in revolutions per minute (RPM).
<i>ANP 1</i> <i>ANP 2</i>	View current absorption of MOTOR 1/MOTOR 2, in Amperes (e.g.: 001.1 = 1,1 A 016.5 = 16,5 A). If the MOTOR 1 / MOTOR 2 is stationary, the current absorption value is 0. Activate a command function to test current absorption.
<i>bUS</i>	System OK indicator. To check for overloading (e.g.: too many utilities connected to 24 V output) or if the mains voltage is too low, compare the parameters read with values indicated as follows with the motor stationary: mains voltage= 230 Vac (nominal), bUS= 37.6 mains voltage= 207 Vac (-10%), bUS= 33.6 mains voltage= 253 Vac (+10%), bUS= 41.6
<i>CNP 1</i> <i>CNP 2</i>	Display current, expressed in Amperes, used to compensate for strain detected by MOTOR 1 / MOTOR 2 due, for example, to low external temperatures (e.g.: 0 = 0 A ... 4 = +3 A). At the beginning of a manoeuvre from the completely open or completely closed position, if the control unit detects a strain higher than the value stored in its memory during the travel acquisition cycle, the controller automatically increases the current delivered to MOTOR 1 / MOTOR 2.
<i>ASC 1</i> <i>ASC 2</i>	Display current threshold, expressed in Amperes, at which the obstacle detection function (crush prevention) of MOTOR 1 / MOTOR 2 is triggered. This value is calculated automatically by the controller in relation to the settings of parameters <i>30</i> , <i>31</i> and <i>32</i> . For the motor to function correctly, <i>ANP</i> must always be lower than the value <i>ASC</i> .
<i>tin 1</i> <i>tin 2</i>	Indicates time taken by motor to detect an obstacle, as set with parameter <i>31/32</i> , in seconds. E.g. 1.000 = 1 s / 0.120 = 0.12 s (120 ms). Ensure that the manoeuvre time is more than 0.3 s.
<i>AbS 1</i> <i>AbS 2</i>	MOTOR 1 / MOTOR 2 status OK indicator. In normal conditions, this value is less than 500. If the value exceeds 2000, the controller disables the motor. A value exceeding 500 indicates that the characteristics of the connection cable are inadequate for the installation or that the connection cable is too long or of inadequate cross section, or may indicate an electrical fault of the brushless motor.
<i>UP</i>	If the control unit is capable of identifying the position of the gate leaf when the test is conducted, the following is shown on the display: <i>UP--</i> position known, normal operation. <i>UP L</i> LEAF 1 position unknown, position recovery in progress. <i>UP L</i> LEAF 2 position unknown, position recovery in progress. <i>UP I2</i> positions of both leaves unknown, position recovery in progress.
<i>OC</i>	Indicates the state of the automation system (open/closed). <i>OC OP</i> automation system opening (motor active). <i>OC CL</i> automation system closing (motor active). <i>OP -O</i> automation system completely open (motor not actives). <i>OP -C</i> automation system completely closed (motor not actives).
<i>UF</i>	<i>UF U</i> mains voltage too low or overload. <i>UF H</i> motors overcurrent.
<i>HOU-</i>	Displays the number of hours remaining before the maintenance alarm is activated. The number is preceded by a – (minus) symbol. If the number of remaining hours is a four figure value, the minus symbol (–) is replaced by a point. Example: -1234 hours remaining until maintenance alarm = .1234 • Pressing ↓ (DOWN arrow): view number of hours of last maintenance service. The first service is indicated as 0.0.0.0. • Pressing ↑ (UP arrow): return to remaining hours display.
<i>bLoc</i>	Displays if the motor brake is active <i>01</i> or not active <i>00</i> .

- If only one motor is connected to the control unit, the parameters relative to “MOTOR 1” only are displayed.
- Use the + / – buttons to scroll through the parameters. When the last parameter in the sequence is reached, press the – button to return through the previous parameters.
- In INFO mode, the automation system may be activated to test operation in real time.
- The two motors may be controlled independently in OPERATOR PRESENT mode, ignoring the error “dRAA” and bypassing the safety devices installed (photocells, sensing edges and STOP button) with the exception of the obstacle detection system. MOTOR 1 is controllable when the messages: *Cnt 1*, *rPn 1*, *ANP 1* and *AbS 1* appear on the display.

MOTOR 2 is controllable when the messages CnE2 , $rPN2$, $ANP2$ and $AbS2$ appear on the display.

- Press the ▲ "UP ARROW" and ▼ "DOWN ARROW" respectively to open or close the currently selected motor.
- For safety, the open and close functions are only available in continuous control (operator present) mode: press the button, release within 1 second and then press and hold. The motor stops as soon as the button is released.

WARNING: When testing motor operation, the motor revolutions count (position) remains the same but the gate leaf alignment control function may cause problems. Before exiting INFO, make sure that the gate leaves are correctly aligned.

- Press and hold the TEST button for a few seconds to exit INFO mode.

15 Mechanical release

In the event of power failure, the gate may be unlocked by following the instructions given in the use and maintenance manual of the automation system. On receiving the first command signal after mains power is restored, the control unit starts an opening manoeuvre in position recovery mode (see chapter 16-17).

For **SMARTY REVERSIBLE**: In the event of loss of power or $\text{E4 } \square \square$, the gate may be opened and closed manually without unlocking the motor.

The **SMARTY/EMA** absolute encoder (installed as standard on **SMARTY REVERSIBLE** units and optional on **SMARTY IRREVERSIBLE** units) allows the controller to reacquire the position immediately after each new command signal received.

16 Position recovery mode (BM20-BR20-BH23-BR21)

On receiving the first command signal after a power failure or after detecting an obstacle in the same position three consecutive times, the control unit starts a manoeuvre in position recovery mode.

On receiving a command signal, the gate starts a manoeuvre at low speed. The flashing light flashes with a different duty cycle than normal (3 s on, 1.5 s off).

The control unit recovers the installation data during this procedure. **Warning:** Do not use any controls until the gate has performed a complete manoeuvre for both leaves.

If the gate is released in the completely open or completely closed position with the control unit powered, always return the gate leaves into their original positions before locking the gate release again. The gate will resume normal operation on receipt of the first control command.

WARNING: Releasing the gate in an intermediate position is not recommended, as it may cause the leaf position parameters to be lost (see parameters CnE1 / CnE2 in INFO mode). In this case, a position recovery procedure is necessary.

17 Position recovery mode with absolute encoder (SMARTY Series only)

Upon receipt of the first command after a power failure or after the gate is unlocked, the controller uses the absolute encoder to reacquire the position of the gate leaf immediately.

If the control unit detects that the gate leaves are not positioned correctly, it corrects the error automatically.

For example: if the control unit receives a close request but the gate leaves cannot close, the unit executes a complete open cycle and then closes the leaves after 1 s (even if automatic closure is not enabled) to restore the correct alignment.

Warning: Do not use any controls until the gate has performed a complete manoeuvre for both leaves.

18 Initial testing

- Turn on the power supply.
- Check that the automation system motors rotate in the correct direction. If the leaves do not move correctly, swap any two of the wires on the X-Y-Z terminal.
- Check that all connected controls are working correctly.
- Check travel and deceleration.
- Check that the impact force is correct, in compliance with EN 12453 and EN12445.
- Check that the safety devices are activated correctly.
- If the battery kit is installed, disconnect from mains and check that the batteries are working.
- Disconnect from mains power and disconnect the batteries (if used), then reconnect. Check the correct completion of the position recovery phase when opening and when closing.
- For SMARTY Series automation systems with absolute encoder installed, disconnect and reconnect power. Perform a manoeuvre with the controls and check that the speed and deceleration values are correct. The position recovery manoeuvre is not performed.
- If $\text{E4 } \square \square$ (SMARTY REVERSIBLE only), check that the gate leaves are locked when the motors are stopped.

19 Maintenance

Perform scheduled maintenance every 6 months.

Check cleanliness and function.

If the unit contains dirt, moisture, insects or other foreign matter, disconnect from mains power and clean the board and the housing.

Repeat the initial installation test procedure after cleaning.

If any corrosion is found on the printed circuit board, evaluate if it is necessary to replace the board itself.

Check that the battery is in good working order.

20 Disposal



The product may only be uninstalled by qualified technical personnel, following suitable procedures for removing the product correctly and safely. This product consists of numerous different materials. Some of these materials may be recycled, while others must be disposed of correctly at the specific recycling or waste management facilities indicated by local legislation applicable for this category of product.

Do not dispose of this product as domestic refuse. Observe local legislation for differentiated refuse collection, or hand the product over to the vendor when purchasing an equivalent new product.

Local legislation may envisage severe fines for the incorrect disposal of this product.

Warning! Some parts of this product may contain substances that are harmful to the environment or dangerous and which may cause damage to the environment or health risks if disposed of incorrectly.

21 Additional information and contact details

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This instruction manual and the warnings for the installer are given in printed form and included in the box containing the product.

The digital version of this documentation (in PDF format) and all future revisions are available from the reserved area of our website www.rogertechnology.com/B2B, in the section 'Self Service'.

ROGER TECHNOLOGY CUSTOMER SERVICE:

business hours: Monday to Friday
08:00 to 12:00 - 13:30 to 17:30
Telephone no: +39 041 5937023
E-mail: service@rogertechnology.it
Skype: service_rogertechnology

To request support for any problems or for any other queries regarding the automation system, please compile the online form "REPAIRS" in the 'Self Service' area of our website www.rogertechnology.com/B2B.

22 Declaration of Conformity

I the undersigned, as acting legal representative of the manufacturer

Roger Technology - Via Botticelli 8, 31021 Bonisiolo di Mogliano V.to (TV)

hereby DECLARE that the appliance described below:

Description: Controller unit for automatic gates

Model: **EDGE1**

Is conformant with the legal requisites of the following directives:

- 2006/42/EC

- 2004/108 /EU

- 2011/65/EC

and that all the standards and/or technical requirements indicated as follows have been applied:

EN 61000-6-3

EN 61000-6-2

Last two figures of year in which marking was applied **CE 17**.

Place: Mogliano V.to

Date: 01-03-2017

Signature