



FAGOR AUTOMATION

**ENCODER ANGULAR MODELO: H2-D90**

***ANGULAR ENCODER MODEL: H2-D90***

**MANUAL DE INSTALACION / *INSTALLATION MANUAL***

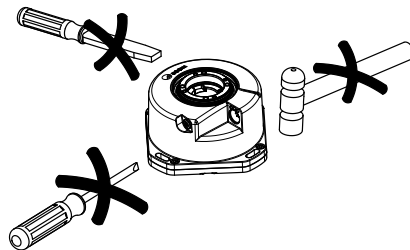
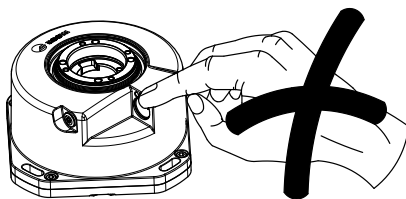
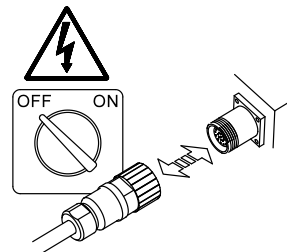
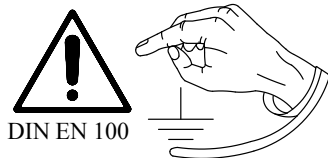
Manual Code: 14460267

Manual Version: 1901

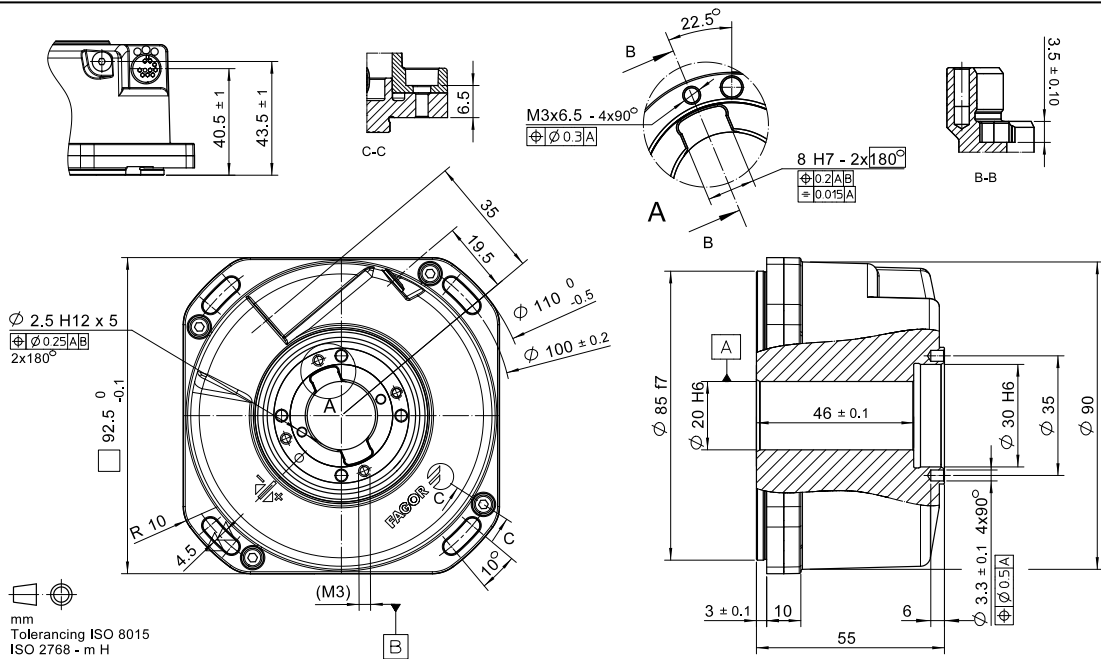




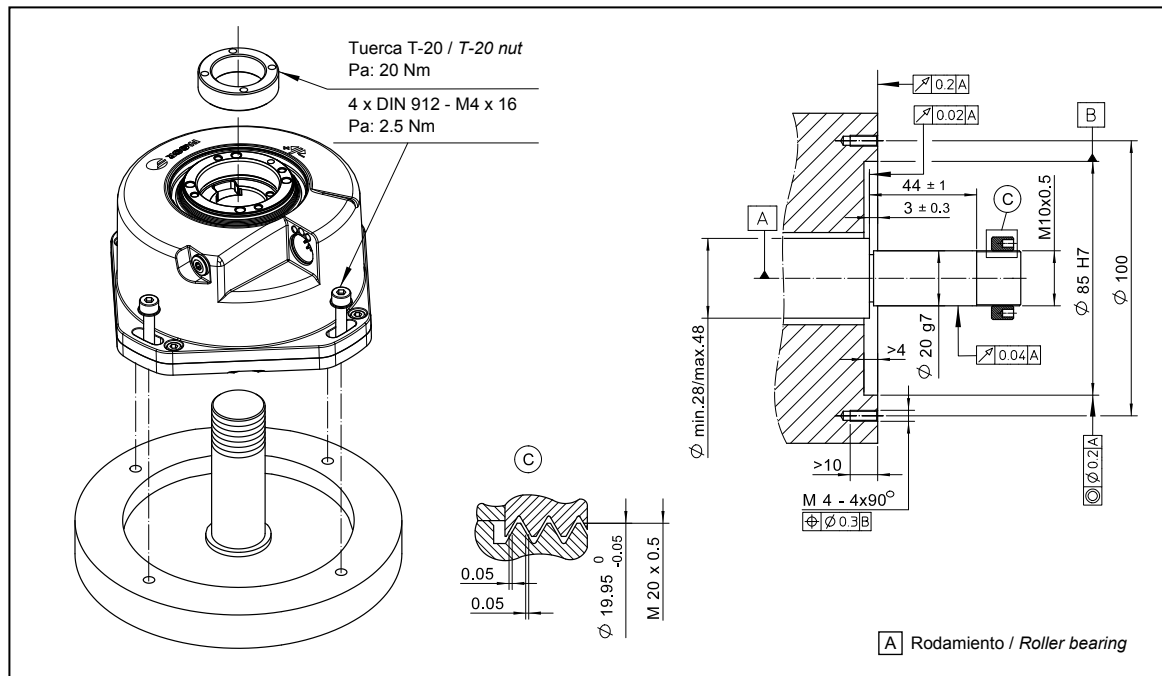
## Precaución / Caution



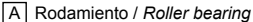
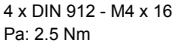
## Dimensiones / Dimensions



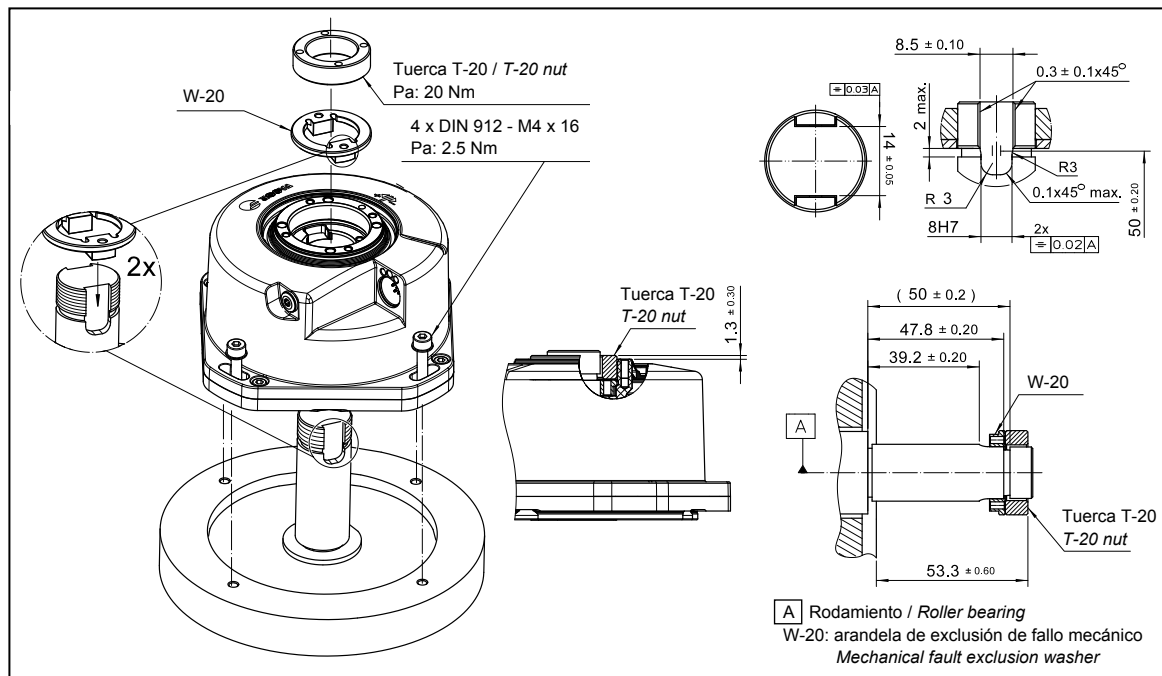
## Posibilidades de montaje / Mounting possibilities

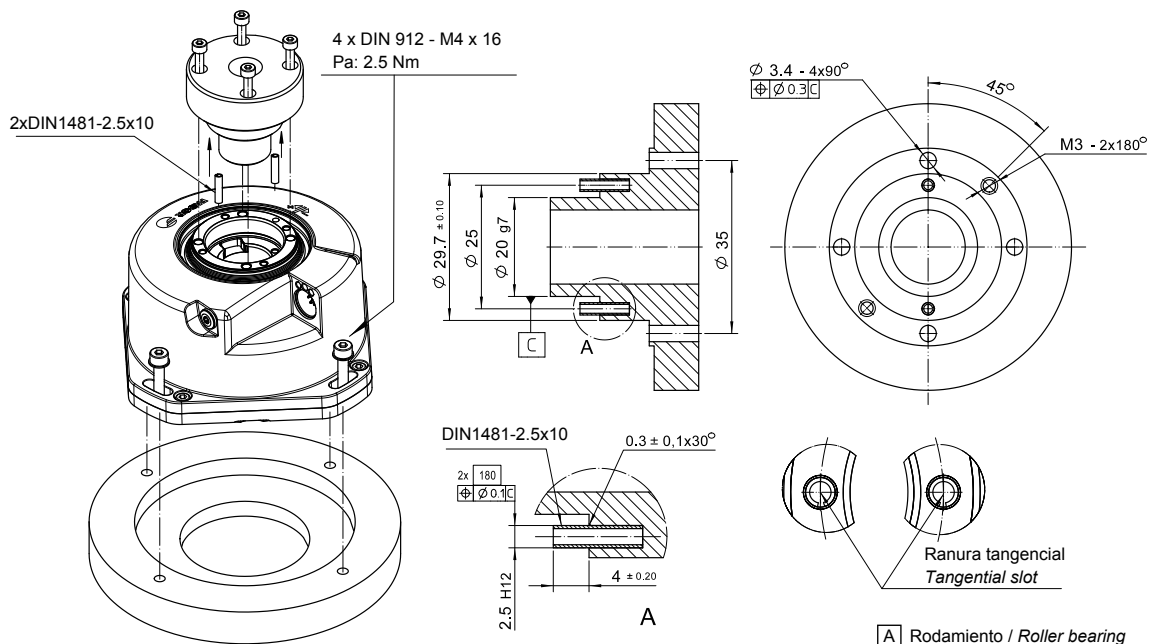


Pa = Par de apriete / Tightening torque



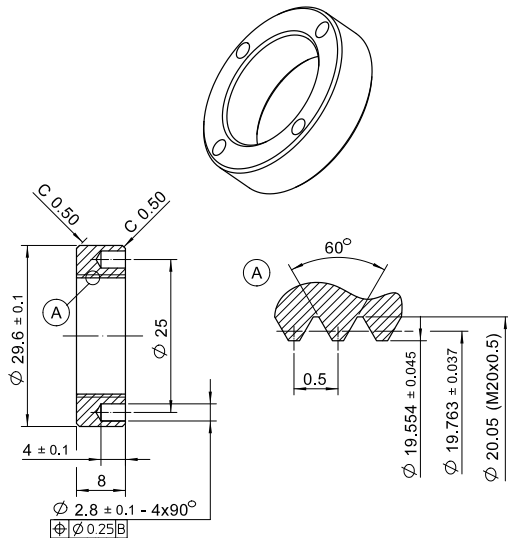
## Opción exclusión de fallo mecánico / *Option mechanical fault exclusion*





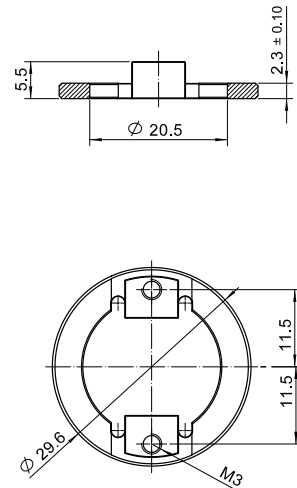


Cod: 82620150

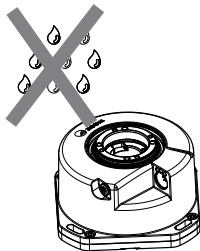


*W-20 Mechanical fault exclusion washer*

Cod: 82620155

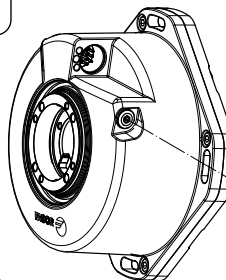
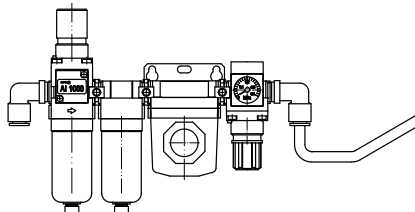


Máximo grado de protección IP 64  
Maximum IP Code IP 64



Para grado de protección > IP 64  
For IP Code > IP 64

Unidades de Filtro de Aire Fagor  
Fagor Air Filter Units

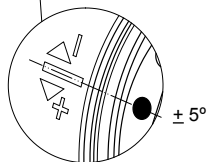
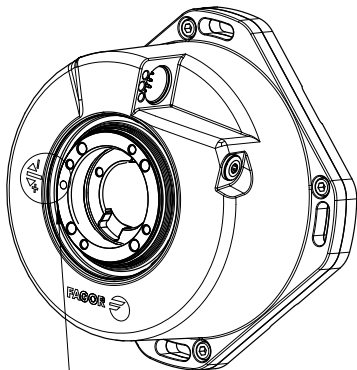


Para > IP 64  
For > IP 64

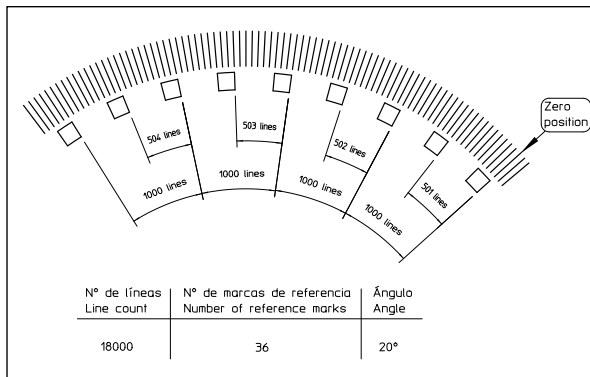
1 bar / 14.5 psi  
5 l/min  
Calidad aire: 1.4.1.  
Air quality: 1.4.1.  
ISO 8573-1

Cod: 82620173  
Pa = 1 Nm

(SW) Tamaño de la llave hexagonal / Size of Allen wrench



Sentido de conteaje  
Counting direction

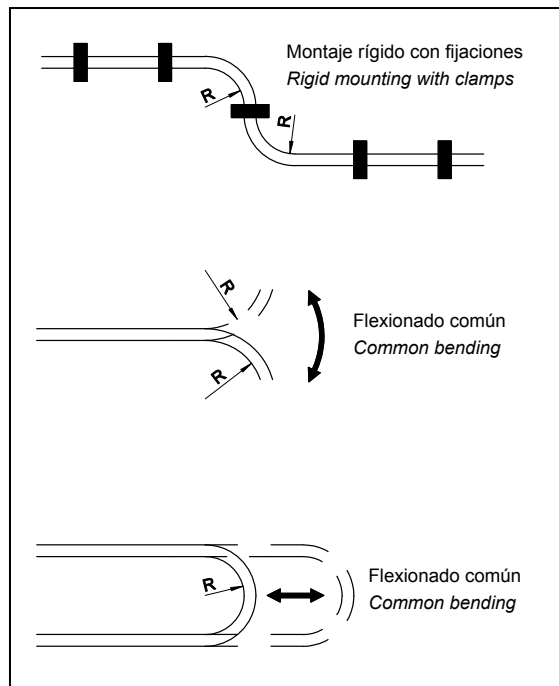


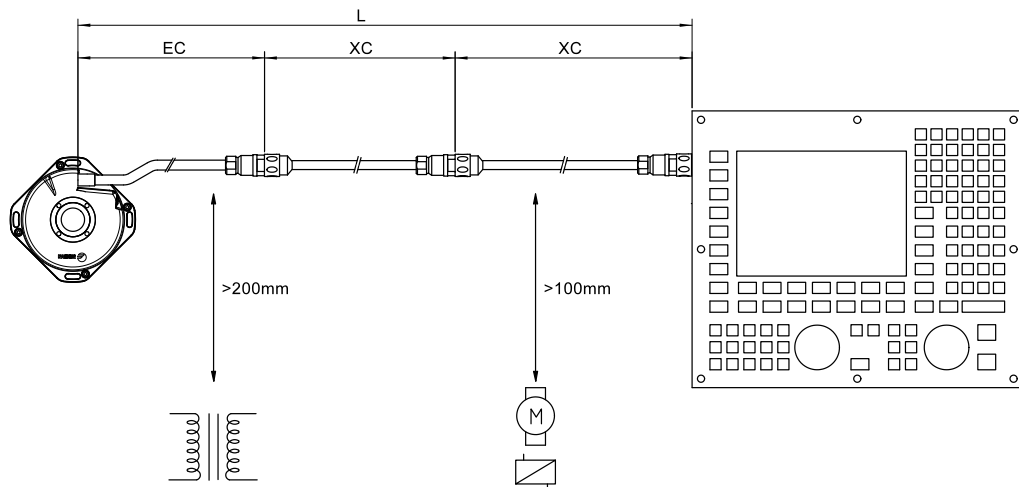
Para instalar el encoder en la marca de referencia (lo) para los modelos no codificados o en la posición de la primera marca de referencia (primer lo) para modelos codificados girar el eje hasta alinear los puntos marcados en el eje y cuerpo.

*For installing the encoder on the reference mark (lo) for incremental reference mark models or on the position of the first reference mark (lo) for distance-coded models turn the shaft and align the marks on the shaft and body.*

## Características eléctricas / *Electrical characteristics*

|                                                         |                                                          |                      |                      |                       |                                                              |
|---------------------------------------------------------|----------------------------------------------------------|----------------------|----------------------|-----------------------|--------------------------------------------------------------|
|                                                         | H2-<br>18000<br>-D90                                     | H2-<br>36000<br>-D90 | H2-<br>90000<br>-D90 | H2-<br>180000<br>-D90 | H2P-18000-D90                                                |
| Alimentación<br><i>Power supply</i>                     | 5 V ± 5%; < 150 mA<br>(sin carga / <i>without load</i> ) |                      |                      |                       | 5 V ± 10%; < 150<br>mA (sin carga /<br><i>without load</i> ) |
| Número de pulsos/vuelta<br><i>Number of pulses/turn</i> | 18000                                                    | 36000                | 90000                | 180000                | 18000                                                        |
| Longitud del cable<br><i>Cable length</i>               | 50 m                                                     |                      |                      |                       | 150 m                                                        |
| Radio de curvatura / <i>Bending radius</i>              |                                                          |                      |                      |                       |                                                              |
|                                                         | Rígido / <i>Rigid</i>                                    |                      |                      | Flexible              |                                                              |
| Φ 6 mm                                                  | > 24 mm                                                  |                      |                      | > 60 mm               |                                                              |
| Φ 10 mm<br>(con protección)<br><i>(with protection)</i> | > 35 mm                                                  |                      |                      | > 60 mm               |                                                              |
| Φ 8 mm                                                  | > 50 mm                                                  |                      |                      | > 64 mm               |                                                              |





# Cables para conexión de encoders incrementales Fagor

## *Cables for connection of Fagor incremental encoders*

### Sistemas Fagor / *Fagor systems*

Conexión directa Cable EC

*Direct connection EC cable*

EC-P-D Longitud / *length* = 1, 3, 6, 9, 12 m

Conexión con alargadera

*Connection with extension cable*

(4 x 2 x 0.14 mm<sup>2</sup> + 4 x 0.5 mm<sup>2</sup>)

Cable EC

Alargadera intermedia opcional XCint

*Intermediate extension cable optional XCint*

Alargadera XC / *Extension cable XC*

EC-A-C1 Longitud / *length* = 1, 3 m

XC-C2-C1 Longitud / *length* = 5, 10, 15, 20, 25 m

XC-C2-D Longitud / *length* = 5, 10, 15, 20, 25 m

### Sistemas Fanuc / *Fanuc systems*

Conexión directa Cable EC

*Direct connection EC cable*

EC-C-FN1 Longitud / *length* = 1, 3, 6, 9, 12 m

Conexión con alargadera

*Connection with extension cable*

(4 x 2 x 0.14 mm<sup>2</sup> + 4 x 0.5 mm<sup>2</sup>)

Cable EC

Alargadera intermedia opcional XCint

*Intermediate extension cable optional XCint*

Alargadera XC / *Extension cable XC*

EC-A-C1 Longitud / *length* = 1, 3 m

XC-C2-C1 Longitud / *length* = 5, 10, 15, 20, 25 m

XC-C2-FN1 Longitud / *length* = 5, 10, 15, 20, 25 m

## Sistemas Panasonic MINAS / *Panasonic MINAS systems*

Conexión directa Cable EC

*Direct connection EC cable*

EC-C-PN6 Longitud / *length* = 1, 3, 6, 9, 12 m

Conexión con alargadera

*Connection with extension cable*

(5 x 2 x 0.14 mm<sup>2</sup>)

Cable EC

Alargadera intermedia opcional XCint

*Intermediate extension cable optional XCint*

Alargadera XC / *Extension cable XC*

EC-A-C1 Longitud / *length* = 1, 3 m

XC-C2-C1 Longitud / *length* = 5, 10, 15, 20, 25 m

XC-C2-A-PN6 Longitud / *length* = 5, 10, 15, 20, 25 m

## Sistemas Siemens Solution Line / *Siemens Solution Line systems*

SME 20 sólo 1Vpp / *only 1Vpp*

SMC 20 sólo 1Vpp / *only 1Vpp*

SMC 30 sólo TTL diferencial / *only differential TTL*

Conexión directa Cable EC

*Direct connection EC cable*

SME 20 EC-A-C5 Longitud / *length* = 1, 3, 6, 9, 12 m

SMC 20 EC-P-S3 Longitud / *length* = 1, 3, 6, 9, 12 m

SMC 30 EC-P-S2 Longitud / *length* = 1, 3, 6, 9, 12 m

Conexión con alargadera

*Connection with extension cable*

(4 x 2 x 0.14 mm<sup>2</sup> + 4 x 0.5 mm<sup>2</sup>)

Cable EC

Alargadera intermedia opcional Xcint

*Intermediate extension cable optional XCint*

Alargadera XC / *Extension cable XC*

SME 20 EC-A-C5 Longitud / *length* = 1, 3 m

XC-C4-C5 Longitud / *length* = 5, 10, 15, 20, 25 m

XC-C4-C5 Longitud / *length* = 5, 10, 15, 20, 25 m

SMC 20 EC-A-C5 Longitud / *length* = 1, 3 m

XC-C4-C5 Longitud / *length* = 5, 10, 15, 20, 25 m

XC-C4-S3 Longitud / *length* = 5, 10, 15, 20, 25 m

SMC 30 EC-A-C5 Longitud / *length* = 1, 3 m

XC-C4-C5 Longitud / *length* = 5, 10, 15, 20, 25 m

XC-C4-S2 Longitud / *length* = 5, 10, 15, 20, 25 m

## Otros sistemas (sin conector terminal) / Other systems (without terminal connector)

Conexión directa Cable EC

*Direct connection EC cable*

EC-AS-O Longitud / *length* = 1, 3, 6, 9, 12 m

Conexión con alargadera

*Connection with extension cable*

(4 x 2 x 0.14 mm<sup>2</sup> + 4 x 0.5 mm<sup>2</sup>)

Cable EC

Alargadera intermedia opcional XCint

*Intermediate extension cable optional XCint*

Alargadera XC / *Extension cable XC*

EC-A-C1 Longitud / *length* = 1, 3 m

XC-C2-C1 Longitud / *length* = 5, 10, 15, 20, 25 m

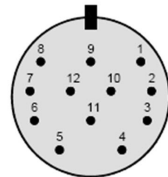
XC-C2-O Longitud / *length* = 5, 10, 15, 20, 25 m



|                            |                                                          |                    |              |             |              |              |                   |                 |              |                 |               |                    |
|----------------------------|----------------------------------------------------------|--------------------|--------------|-------------|--------------|--------------|-------------------|-----------------|--------------|-----------------|---------------|--------------------|
| EC - A - C1<br>EC - A - C5 | Conector circular 12 macho / 12-pin male round connector |                    |              |             |              |              |                   |                 |              |                 |               |                    |
| PIN                        | 5                                                        | 6                  | 8            | 1           | 3            | 4            | 7                 | 12              | 2            | 10              | 11            | Carcasa<br>Housing |
| SEÑAL<br>SIGNAL            | A                                                        | /A                 | B            | /B          | lo           | /lo          | /Alarm            | +5 V            | +5<br>sensor | 0 V             | 0 V<br>sensor | Tierra<br>Ground   |
| COLOR                      | Verde<br>Green                                           | Amarillo<br>Yellow | Azul<br>Blue | Rojo<br>Red | Gris<br>Grey | Rosa<br>Pink | Violeta<br>Purple | Marrón<br>Brown |              | Blanco<br>White |               | Malla<br>Shield    |



EC - ...A - C1



|                 |                                  |                    |              |             |              |              |                 |                   |                 |                |                  |
|-----------------|----------------------------------|--------------------|--------------|-------------|--------------|--------------|-----------------|-------------------|-----------------|----------------|------------------|
| EC - AS - O     | Sin conector / Without connector |                    |              |             |              |              |                 |                   |                 |                |                  |
| SEÑAL<br>SIGNAL | A                                | /A                 | B            | /B          | lo           | /lo          | +5 V            | +5<br>sensor      | 0 V             | 0 V<br>sensor  | Tierra<br>Ground |
| COLOR           | Verde<br>Green                   | Amarillo<br>Yellow | Azul<br>Blue | Rojo<br>Red | Gris<br>Grey | Rosa<br>Pink | Marrón<br>Brown | Violeta<br>Purple | Blanco<br>White | Negro<br>Black | Malla<br>Shield  |



EC - AS - O

## Condiciones de garantía / *Warranty terms*

Las condiciones de garantía de este producto están disponibles en la zona de descargas del sitio web corporativo de FAGOR.  
<http://www.fagorautomation.com>. (Tipo de fichero: Condiciones generales de venta-Garantía).

*The warranty conditions for this product are available in the downloads section of FAGOR's corporate website at*  
<http://www.fagorautomation.com>.

*(Type of file: General Terms and Conditions of Purchase - Warranty).*

## Declaración de conformidad / *Declaration of conformity*

La declaración de conformidad de este producto está disponible en la zona de descargas del sitio web corporativo de FAGOR.  
<http://www.fagorautomation.com>. (Tipo de fichero: Declaración de conformidad).

*The declaration of conformity for this product is available in the downloads section of FAGOR'S corporate website at*  
<http://www.fagorautomation.com>.

*(Type of file: Declaration of conformity).*



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