

## HAZARDOUS (CLASSIFIED) LOCATION

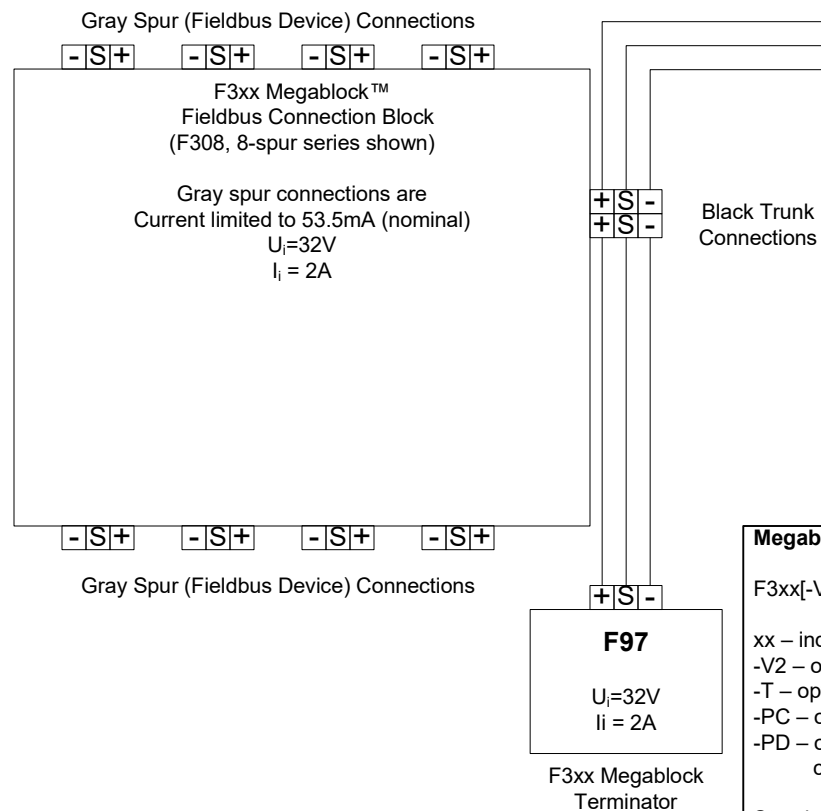
Ex nA IIC T4 Gc

$-50^{\circ}\text{C} \leq T_{\text{amb}} \leq 70^{\circ}\text{C}$

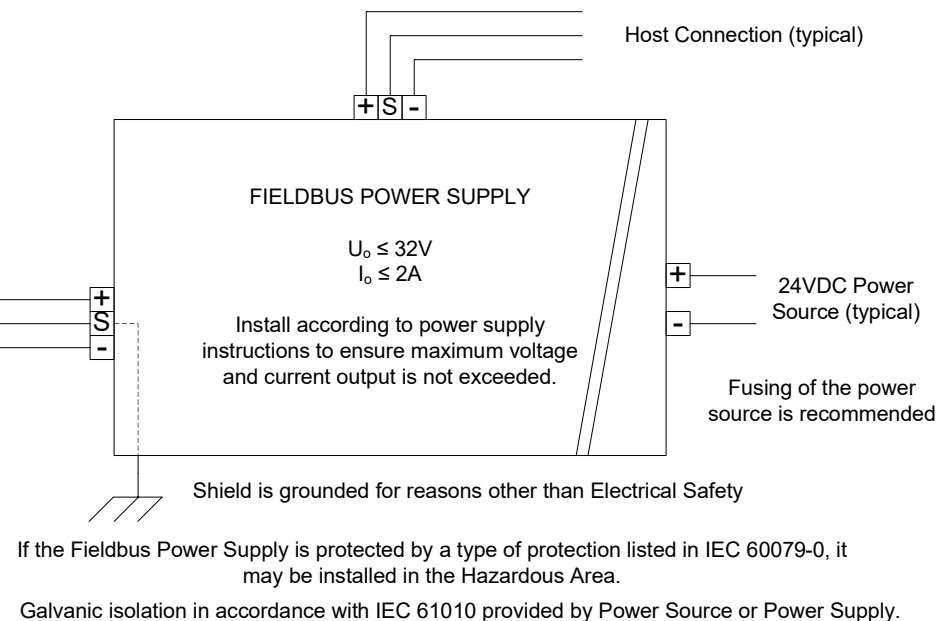
Ex ec IIC T4 Gc

### Specific Conditions of Use

- The apparatus is to be installed in an enclosure which maintains a minimum ingress protection rating of IP54 in accordance with IEC 60079-0.
- For level of protection 'nA' provisions shall be made externally to the apparatus to prevent the rated input being exceeded by transient disturbances of more than 140% of the rated voltage.
- For level of protection 'nA' the apparatus shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.



## NON-HAZARDOUS LOCATION



**WARNING – EXPLOSION HAZARD. DO NOT DISCONNECT EQUIPMENT WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT**

### Megablock™ Part Numbers:

F3xx[-V2][-T][-PC][-PD]

xx – indicates the number of spurs (04, 08, 12, or 16)  
-V2 – option for no over-voltage protection  
-T – option for a built-in terminator  
-PC – option for pluggable spring clamp connectors  
-PD – option for pluggable insulation displacement connectors

Standard connectors are Pluggable Screw Terminal type.

The F97 is not used if the F3xx contains an internal Terminator (-T part number suffix).

### Wire Requirements:

Connector Type	AWG	Torque
Screw Terminal	22-14	0.5-0.6Nm
Spring Clamp	24-12	NA
Insulation Displacement	20-18	NA

Agency drawing changes not allowed without prior written permission from Agency.



**Relcom Inc.**

INDUSTRIAL LAN | WIRING COMPONENTS AND TESTERS

2221 Yew Street, Forest Grove, Oregon 97116 USA

**CONTROL DRAWING FOR F3XX  
MEGABLOCK™ SERIES FIELDBUS  
CONNECTION BLOCKS  
IECEx Ex ec, AND Ex nA  
INSTALLATIONS**

Approved by: Cyrus Kelly

Date: 02 DEC 2022

Doc. No. 502-485

Rev. G.0

Sheet 1 of 4

## HAZARDOUS (CLASSIFIED) LOCATION

Ex nA [ic] IIC T4 Gc

$-50^{\circ}\text{C} \leq T_{\text{amb}} \leq 70^{\circ}\text{C}$

Ex ec [ic] IIC T4 Gc

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#### Gray Spur (Fieldbus Device) Connections

-S+ -S+ -S+ -S+

F3xx Megablock™  
Fieldbus Connection Block  
(F308, 8-spur series shown)

Gray spur connections are  
Current limited to 53.5mA (nominal)  
 $U_i = 24\text{V}$  (IIC),  $U_i = 32\text{V}$  (IIB, IIA)  
 $I_i = 2\text{A}$ ,  $C_i = 0$ ,  $L_i = 0$

$U_o$  = Megablock input voltage. The apparatus  
supplying the input voltage must provide voltage  
limiting meeting IEC 60079-11 requirements.

$I_o = 56\text{mA}$

$P_o = 1.344\text{W}$  (IIC),  $P_o = 1.792\text{W}$  (IIB, IIA)

Gas Groups	IIC	IIB	IIA
$C_o$	80nF	80nF	80nF
$L_o$	0.15mH	0.26mH	0.26mH

-S+ -S+ -S+ -S+

#### Gray Spur (Fieldbus Device) Connections

#### Ex ic (FISCO) Gray Spur Outputs:

- Cable  $\leq 60\text{m}$
- Cable Resistance  $R_c$ : 15-150ohms/km
- Cable Capacitance  $C_c$ : 45-200nF/km
- Cable Inductance  $L_c$ : 0.4-1.0mH/km
- Fieldbus device FISCO certified in accordance with IEC 60079-27.
- $U_o$  of Fieldbus Power Supply  $\leq 17.5\text{V}$
- Installation to comply with IEC 60079-27.

#### Ex ic (Entity) Gray Spur Outputs:

- $C_o > C_i + C_{\text{cable}}$
- $L_o > L_i + L_{\text{cable}}$
- Fieldbus device 'Ex i' rated to meet  $U_o$  of Megablock and have entity parameters.

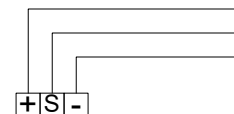
F97

$U_i = 32\text{V}$   
 $I_i = 2\text{A}$

F3xx Megablock  
Terminator

Installation must be in  
accordance with any  
applicable local  
electrical requirements.

## NON-HAZARDOUS LOCATION



Host Connection (typical)

### FIELDBUS POWER SUPPLY

$U_o \leq 24\text{V}$  (IIC)  
 $U_o \leq 32\text{V}$  (IIB, IIA)  
 $I_o \leq 2\text{A}$

Install according to power supply  
instructions to ensure maximum voltage  
and current output is not exceeded.

+ 24VDC Power  
Source (typical)  
-

Fusing of the power  
source is recommended

Shield is grounded for reasons other than Electrical Safety

If the Fieldbus Power Supply is protected by a type of protection listed in IEC 60079-0, it  
may be installed in the Hazardous Area.

Galvanic isolation in accordance with IEC 61010 provided by Power Source or Power Supply.

SEPARATOR MUST BE  
INSTALLED BETWEEN BLACK  
AND GRAY CONNECTORS TO  
SUPPORT [ic] RATING

WARNING – EXPLOSION HAZARD. DO NOT DISCONNECT  
EQUIPMENT WHEN A FLAMMABLE OR COMBUSTIBLE  
ATMOSPHERE IS PRESENT  
(except gray spurs).

### Megablock™ Part Numbers:

F3xx[-T][-PC][-PD]

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2221 Yew Street, Forest Grove, Oregon 97116 USA

CONTROL DRAWING FOR F3XX  
MEGABLOCK™ SERIES FIELDBUS  
CONNECTION BLOCKS  
IECEx Ex ec [ic], AND Ex nA [ic]  
INSTALLATIONS

Approved by: Cyrus Kelly

Date: 02 DEC 2022

Doc. No. 502-485

Rev. G.0

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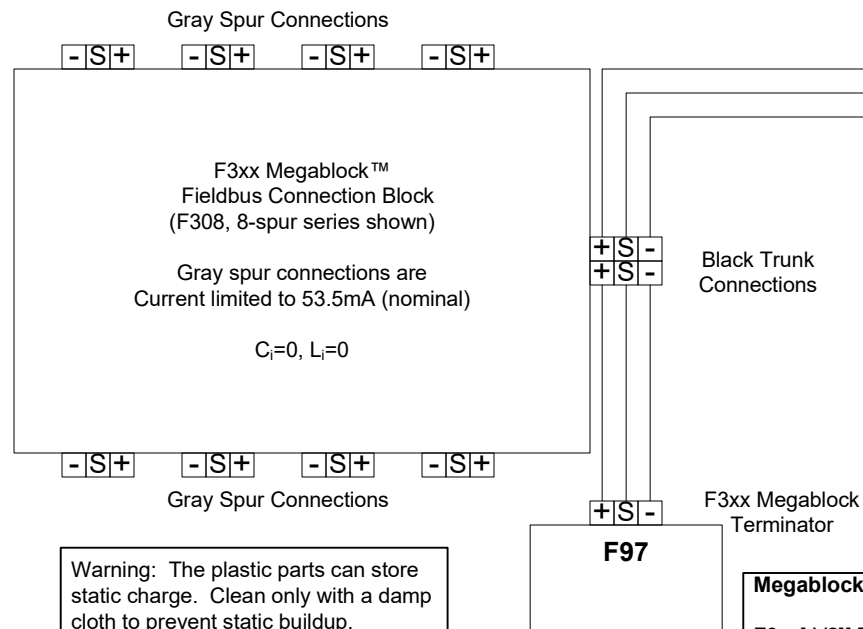
## HAZARDOUS (CLASSIFIED) LOCATION

Ex ic IIC T4 Gc FISCO

$-50^{\circ}\text{C} \leq T_{\text{amb}} \leq 70^{\circ}\text{C}$

### Specific Conditions of Safe Use

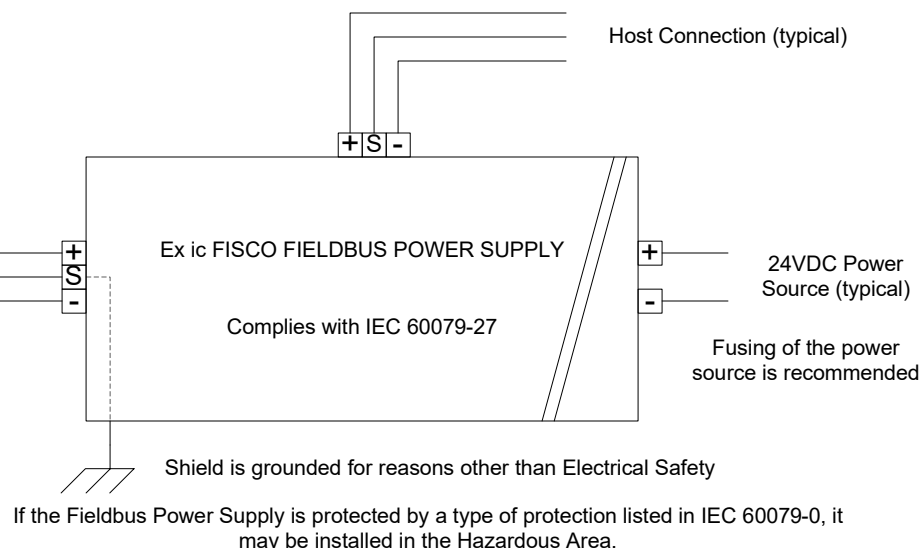
- The apparatus is to be installed in an enclosure which maintains a minimum ingress protection rating of IP54 and meets the enclosure requirements of IEC 60079-0 and IEC 60079-11.



FISCO ic (FNICO) Installation Requirements	
Device Capacitance:	0 – 5nF
Device Inductance:	0 – 10μH
Cable resistance, $R_c$ :	15 – 150 ohms/km
Cable inductance, $L_c$ :	0.4 – 1.0 mH/km
Cable capacitance, $C_c$ :	45-200nF/km
Max. Segment length:	1 km for IIC; 5 km for IIB (Note 1)
Maximum Spur length:	60m
Installation to comply with IEC 60079-27	

Note 1: Limited to 1.9 km by IEC61158-2.

## NON-HAZARDOUS LOCATION



Installation must be in  
accordance with any applicable  
local electrical requirements.

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MEGABLOCK™ SERIES FIELDBUS  
CONNECTION BLOCKS  
IECEx Ex ic INSTALLATIONS

Approved by: Cyrus Kelly

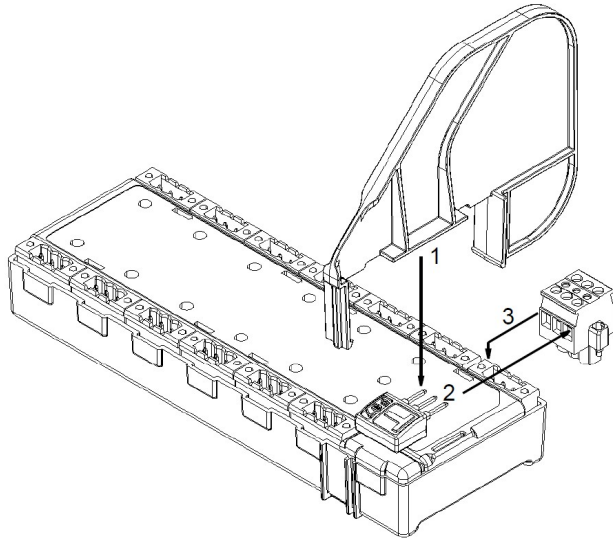
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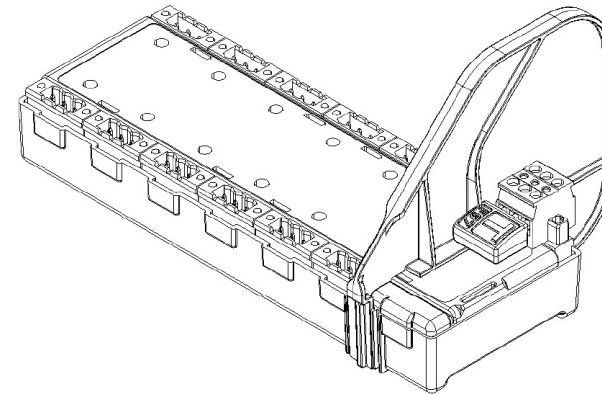
Rev. G.0

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## Installing the Partition, Terminator, and Connector



## Partition, Terminator, and Connector Installed



### Partition Installation

The Partition must be installed for Ex nA [ic] and EX ec [ic] applications. Orient the partition as shown above and press down as indicated by the arrow. The 'fingers' will slide in the two channels on each side of the F3xx until they latch in place at the bottom of the case. The channels are sized differently so the Partition cannot be installed backwards.

### Terminator Installation

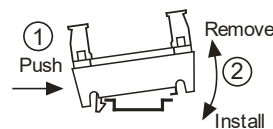
If needed the F97 Terminator is installed in the Black Dual Pluggable connector as shown above. Insert it into the connector and tighten the screws.

### Connector Installation

The connectors are installed as shown in the diagram above. Fully insert them into the mating connector on the F3xx. Secure the two retaining screws to prevent the connector from unexpectedly dislodging.

### DIN Rail Mounting

F3xx Megablocks are designed to be mounted on 35 mm DIN rail using the clip mechanism on the back of each unit. Mounting can be vertical or horizontal. Use of DIN rail end stops is recommended.



### Certification Markings – F3xx

F3xx and F97	IECEX FMG 11.0017 X
Install per Doc. No. 502-485	
Ex nA IIC T4 Gc	Ex ec IIC T4 Gc
Ex nA [ic] IIC T4 Gc	Ex ec [ic] IIC T4 Gc
Ex ic IIC T4 Gc FISCO	Relcom Inc.
-50C<Tamb<70C	Forest Grove, OR USA

### Certification Markings – F3xx-V2

F3xx-V2 and F97	IECEX FMG 11.0017 X
Install per Doc. No. 502-485	
Ex nA IIC T4 Gc	Ex ec IIC T4 Gc
Ex ic IIC T4 Gc FISCO	Relcom Inc.
-50C<Tamb<70C	Forest Grove, OR USA

### Repair and Maintenance

No maintenance is required for these products. There are also no user serviceable parts in these products. Contact the distributor or factory for any product issues.

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2221 Yew Street, Forest Grove, Oregon 97116 USA

## F3XX MEGABLOCK™ SERIES

## INSTALLATION INSTRUCTIONS

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Doc. No. 502-485

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