TECHNICAL DATASHEET

SLB

Slave Line Barrier

Summary

The iMAC Slave Line Barrier (SLB) permits connection of non-intrinsically safe modules to an intrinsically safe iMAC fieldbus.

The SLB barrier achieves this by accepting an intrinsically safe iMAC fieldbus connection at its L1 (input) terminals and creating a synchronised re-generated isolated non-intrinsically safe iMAC fieldbus at its L2 terminals (output).

The SLB and any non-intrinsically safe iMAC Modules connected to its non-intrinsically safe iMAC Fieldbus must be installed in a safe area or flame proof enclosure.

The SLB requires a local power supply and is available in two variants to suit either 110VAC or 240VAC power supplies.

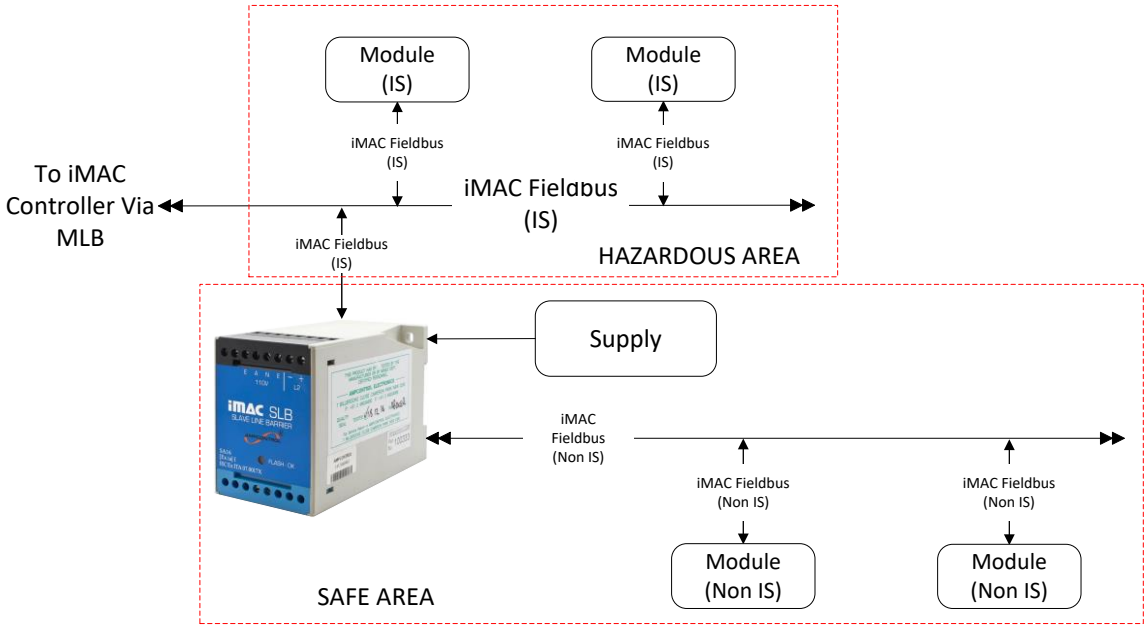
Data Register(s)

None

Features

- Intrinsically Safe IECEx [Ex ia] Group I Ma
- Permits connection of non-intrinsically safe modules to an intrinsically safe iMAC Fieldbus.
- Multifunction diagnostic status LED
- Standard DIN rail or foot mounting

Minimum System



CAUTION!

Modules used in non-I.S. systems shall not be re-used in I.S. systems

(as the integrity of internal components upon which intrinsic safety depends may have been compromised).

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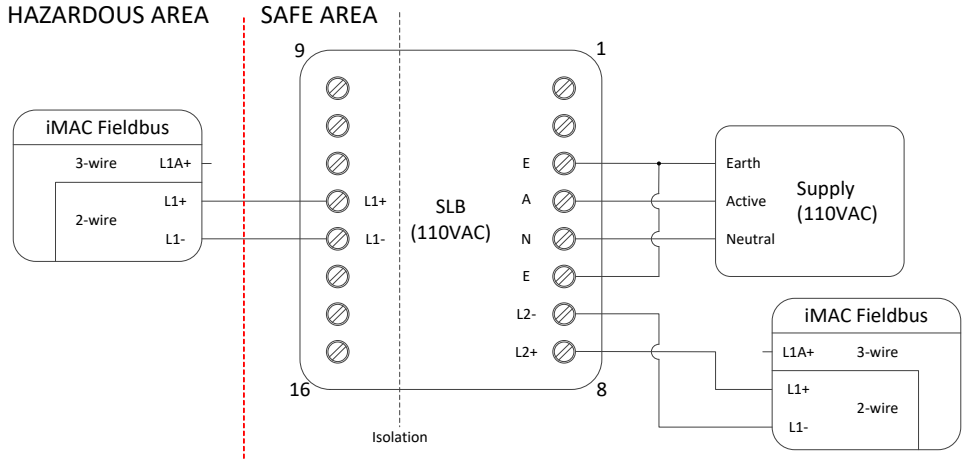
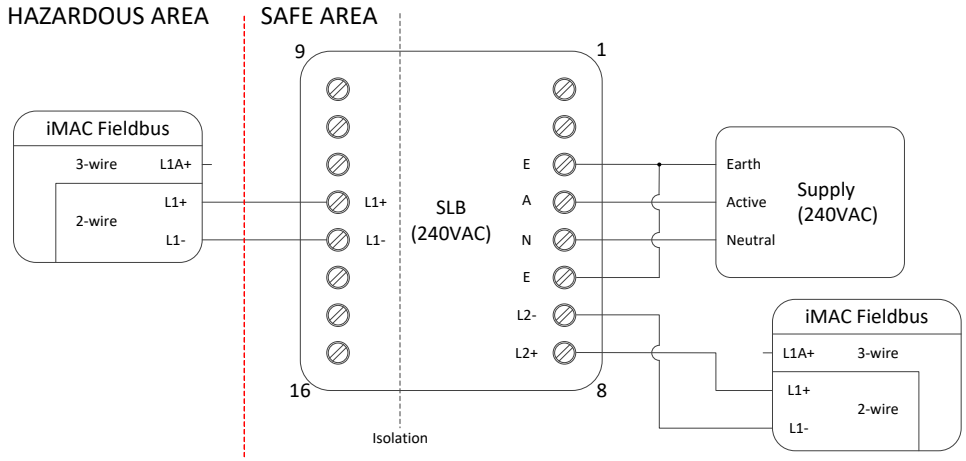
Electrical Connections

110VAC Model



240VAC Model



Note: refer to iMACB094 – iMAC Installation Requirements

Terminal	Label	Type	Description
1, 2	*Not used*	-	-
3	*E*	Power Supply Input	Earth (internally connected to terminal 6)
4	*A*		AC
5	*N*		
6	*E*		Earth (internally connected to terminal 3)
7	*L2-*	L2 comms	iMAC Controller (2 wire) – Safe area
8	*L2+*		
9, 10, 11	*Not used*	-	-
12	*L1+*	L1 comms	iMAC Controller (2 wire) – Hazardous area
13	*L1-*		
14, 15, 16	*Not used*	-	-

Functional Logic

The SLB L1 'Hazardous Area' terminals are permitted to connect to a single intrinsically safe iMAC Fieldbus communication line. The L2 'Safe Area' terminals provide a re-generated isolated non-intrinsically safe iMAC Fieldbus to which non-intrinsically safe iMAC modules may be connected. The SLB, its non-intrinsically safe Fieldbus and any non-intrinsically safe iMAC Modules connected to this non-intrinsically safe iMAC Fieldbus must be installed and remain in a safe area or flame proof enclosure.

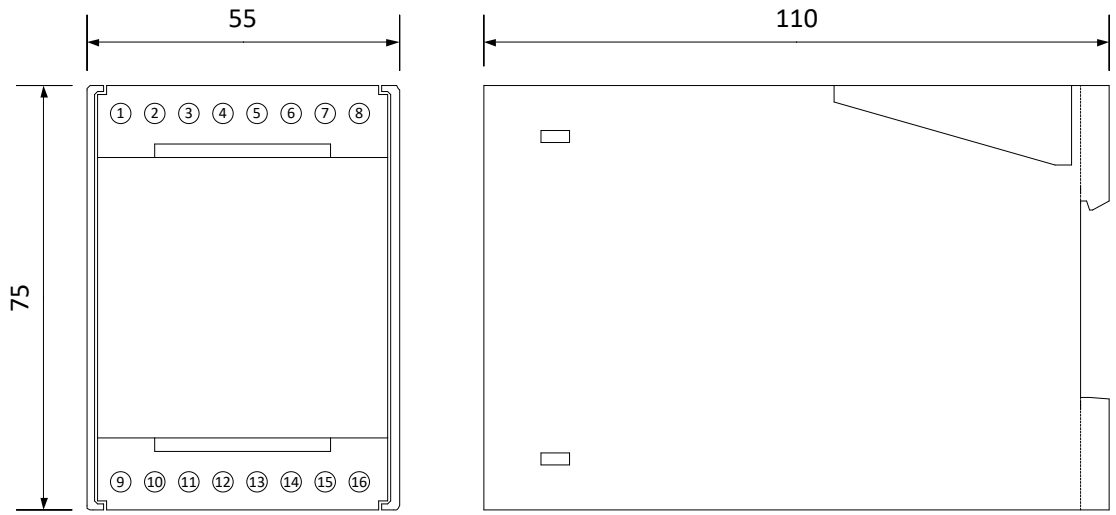
Note: resistance readings for iMAC modules connected to the non-intrinsically safe fieldbus will not include any additional loop resistance between the SLB L2 terminals and the module terminals. Their resistance readings will be measured only for the fieldbus cable length between the iMAC Controller L1 terminals and the SLB L1 terminals.

LED Indicators	
Status LED (OK)	
Off	Unknown (check connections)
Flash	L1 comms is active

Certification / Approvals		
Type	[Ex ia] I Ma (must be installed in a safe area or flame proof enclosure)	
Certificate number	IECEx ITA 07.0017X	
Module type	SA16	
IP rating	Must be installed in an enclosure not less than IP20 (IP54 recommended)	
Other	Must be connected in accordance with iMAC system drawing IMACZ032.	
I/O parameters	Terminals 1 - 8	Um = 250V
	Terminals 12 wrt 13 (L1+ wrt L1-)	Ui = 21.5V (44.65R source resistor) Ci = Negligible Li = Negligible Uo = 0V Io = 0A
Ambient temperature (Ta)	-20°C to +40°C (refer to operating environment specifications)	
This table is provided for quick reference purposes only: refer to latest issue of the Certificate of Conformity for all system designs.		

Specifications		
Mechanical		
Dimensions	110 mm (Height) x 55mm (Width) x 75mm (Depth)	
Weight	230g	
IP Rating	IP20	
Mounting	Standard 35mm DIN rail (Top Hat Rail – EN50022)	
Electrical Connections	ERNI screw terminals (maximum wire size of 4mm^2, maximum torque or 0.4 Nm)	
Environmental		
Operating Temperature	0°C to +50°C	
Power Supply (external)		
Voltage	110VAC (±15%)	240VAC (±15%)
Current	46mA (5W max)	21mA (5W max)
Communications (iMAC L1)		
Hardware interface	2 wire (+/-18VDC I.S. via MLB barrier)	
Line Speed	300 - 1000 baud	
Bit protocol	iMAC proprietary	
L1 Isolation	3.5kV AC	
L1 Line Loading (baud)	6.4mA (300 - 1000 baud)	
Communications (iMAC L2)		
Hardware interface	2 wire (+/-12VDC non-I.S.)	
Line Speed	300 - 1000 baud	
Bit protocol	iMAC proprietary	
Find Out More		
For more information on this product, contact Ampcontrol Customer Service on +61 1300 267 373 or *customerservice@ampcontrolgroup.com* or visit the Ampcontrol website: www.ampcontrolgroup.com		

Dimensions



Equipment List

Part Number	Description
100333	MODULE IMAC SLB 110V IECEx
100347	MODULE IMAC SLB 240V IECEx