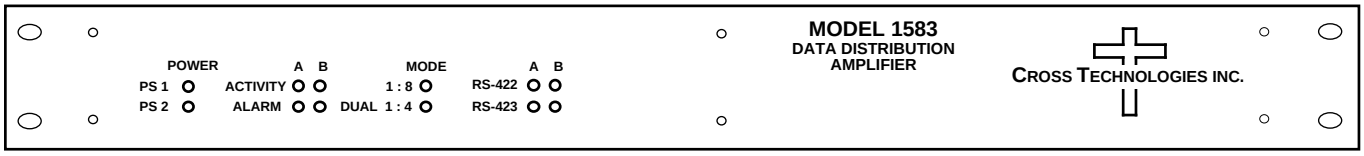
Instruction Manual

Model 1583-10

Data Distribution Amplifier

June 2010 Rev. A



When ordering parts from Cross Technologies, Inc., be sure to include the equipment model number, equipment serial number, and a description of the part.

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INSTRUCTION MANUAL

MODEL 1583-10 Data Distribution Amplifier

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MODEL 1583-10 Data Distribution Amplifier

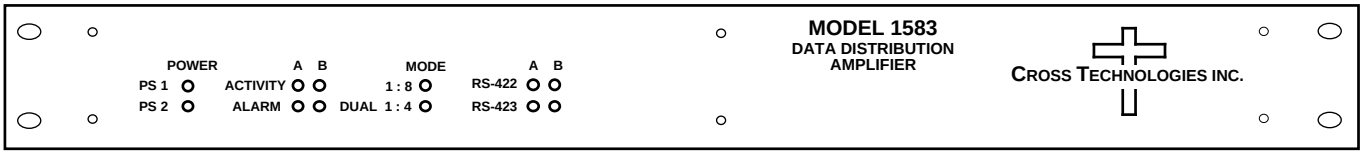
1.0 Equipment Description*

The 1583-10 Data Distribution Amplifier is a dual-functionality unit which may be configured in either of two (2) modes:

- **1:8 Mode**, 1:8 data distribution plus pass-through mode; provides one (1) data input (J1) with eight (8) data outputs (J4 - J11) and a Input 'pass-through' (J2) for input data to be sent to another device OR ....
- **Dual 1:4 Mode**; two (2) data inputs (J1 & J2), each with four (4) data outputs (J4 - J7 and J8 - J11 respectively).

All data ports are (user selectable) RS422/423 (RS232 compatible) DB9, female connectors. Data signals on the DB9 connectors are pin 2 (RS232/423) or pins 2 & 7 (RS422). The Data activity monitor is (factory) set from 1 to 9 minutes.

Dual switching power supplies provide redundant power. Front panel LEDs indicate power supply operation, 1:8 or Dual 1:4 mode, Data activity (Inputs A and B), and selected interface (RS422 or RS423). The unit is housed in a 1.75" rack mount chassis. Rear panel provides Alarm Interface (DB25) and Data type selection (RS 422 or 223(RS232 compatible) switches.



1583-10 FRONT PANEL

1.1 Technical Specifications

Data Characteristics

Input/Output	RS422/423 (RS232 compatible)
Data rate	512 kB/s max.
Inputs/Outputs	
1:8 mode:	1 input with hard wired loop of the input / 8 - Buffered RS422/423 outputs.
Dual 1:4 mode:	2 inputs / each with 4 - Buffered RS422/423 outputs
Connectors	Data: DB9, female, Alarm: DB25, female

Indicators

POWER	CH1/CH2 LED; Turns green when power applied to POWER IN 1/2 respectively.
Mode (1:8 / Dual 1:4)	LED's turn Green when unit configured in either 1:8 or Dual 1:4 mode.
Data Activity	LEDs Green/Red based on data input activity setting, 1 to 9 minutes (factory set).

Other

Compliance	RoHS-5, CE Compliant
Mechanical	19 inch standard chassis 1.75" high X 11.5" deep
Power	100-240 ± 10% VAC, 47 - 63 Hz, 10 watts, Redundant Switching Power Supplies.

*+10˚C to +40˚C; Specifications subject to change without notice

2.0 Installation

2.1 Input/Output Connectors and Switches

The following are the input and output connectors.

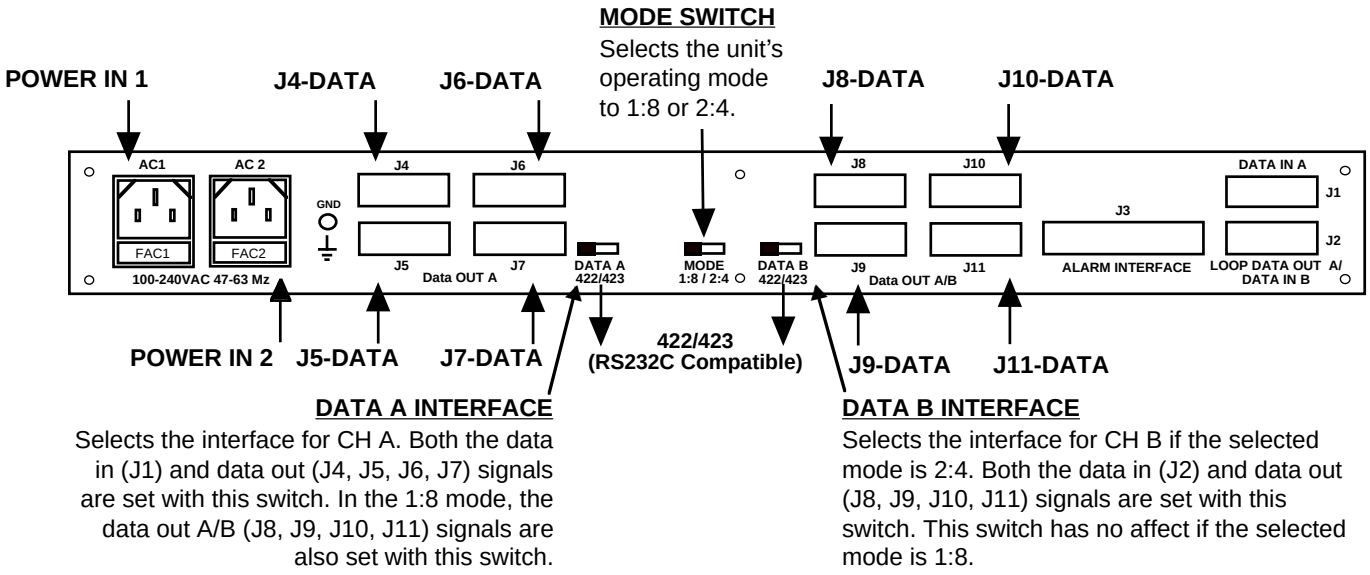


FIGURE 2.1 1583-10 REAR PANEL

TABLE 2.0 INPUT / OUTPUT CONNECTORS

Data Input: J1, J2, - Data Connectors (Figure 2.1)
Data Output: J4, J5, J6,J7, J8, J9, J10, J11 - Data Connectors (Figure 2.1)

Function	Pin Number	Description
DATA	2	RS-423
	2, 7	RS-422
GROUND	5	Ground
NO CONNECTION	1, 3, 4, 6, 8	No Connection

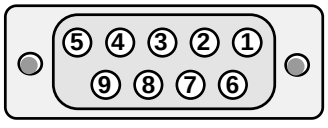
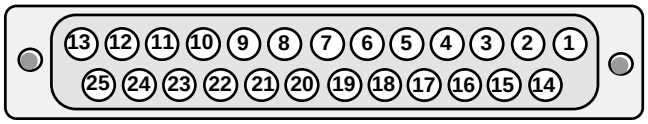


FIGURE 2.2 DB9 PIN OUT

AC1, AC2 - POWER IN - Provides AC inputs for dual power supply.

FAC1, FAC2 - 2 AMP FUSES - 2 AMP slow blow 115 VAC fuses for the dual power supplies.

TABLE 2.1 CONNECTOR J3 - ALARM INTERFACE
Female DB-25



PIN	Function
6	Power Supply 1 Status, Normally Open
7	Power Supply 1 Status, Normally Closed
19	Power Supply 1 Status, Common
20	Power Supply 2 Status, Normally Open
21	Power Supply 2 Status, Normally Closed
8	Power Supply 2 Status, Common
9	Alarm A, Normally Open
10	Alarm A, Normally Closed
22	Alarm A, Common
23	Alarm B, Normally Open
24	Alarm B, Normally Closed
11	Alarm B, Common
12	Mode Status 2:4, Normally Open
13	Mode Status 2:4, Normally Closed
25	Mode Status 2:4, Common
1, 2, 3, 4	For Test Purposes Only, DO NOT CONNECT
5, 18	Ground
14, 15, 16, 17	Not Used

2.2 Indicators The following are the front panel indicators. There are no controls to adjust.

FIGURE 2.4 1583-10 FRONT PANEL INDICATORS

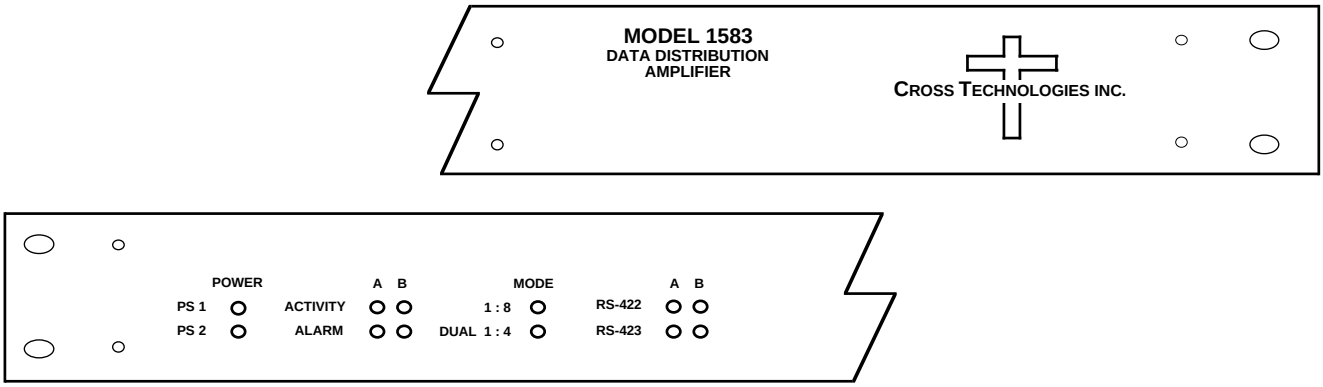


TABLE 2.3 FRONT PANEL INDICATORS

ITEM	Description
POWER CH1 LED:	Illuminates green when power is applied to AC 1 input on the rear panel
POWER CH2 LED:	Illuminates green when power is applied to AC 2 input on the rear panel
ACTIVITY A:	Illuminates green when data activity is detected from DATA IN A (J1).
ALARM A:	Illuminates red when no data is detected from DATA IN A (J1) for a time period of 1 minute. Other time periods can be programmed at the factory by contacting Cross Technologies. (info@crosstechnologies.com)
ACTIVITY B:	Illuminates green when data activity is detected from DATA IN B (J2) and the selected mode is 2:4.
ALARM B:	Illuminates red when no data activity is detected from DATA IN B (J2) for a time period of 1 minute and the selected mode is 2:4. Other time periods can be programmed at the factory by contacting Cross Technologies. (info@crosstechnologies.com)
MODE 1:8	Illuminates green when the selected mode is 1:8. The mode is selected with the MODE switch located on the rear panel and shown in Figure 2.1.
MODE 2:4	Illuminates green when the selected mode is 2:4. The mode is selected with the MODE switch located on the rear panel and shown in Figure 2.1.
RS-422 A:	Illuminates green when DATA A's interface is set to RS-422. DATA A's interface is selected with a switch located on the rear panel and shown in Fig.2.1.
RS-423 A:	Illuminates green when DATA A's interface is set to RS-423. DATA A's interface is selected with a switch located on the rear panel and shown in Fig.2.1.
RS-422 B:	Illuminates green when DATA B's interface is set to RS-422 and the selected mode is 2:4. DATA B's interface is selected with a switch located on the rear panel and shown in Figure 2.1.
RS-423 B:	Illuminates green when DATA B's interface is set to RS-423 and the selected mode is 2:4. DATA B's interface is selected with a switch located on the rear panel and shown in Figure 2.1.

2.3 Installation/Operation

1. Install the 1583-10 in the equipment rack.

Rack-Mounting - To mount this equipment in a rack, please refer to the installation instructions located in the user manual furnished by the manufacturer of your equipment rack.

Mechanical Loading - Mounting of equipment in a rack should be such that a hazardous condition does not exist due to uneven weight distribution.

Elevated Operating Ambient Temperature - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack may be greater than room ambient temperature. Therefore, consideration should be given to Tmra.

Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. Additional space between unit may be required.

Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits could have on over current protection and supply wiring. Appropriate consideration of equipment name plate rating should be used when addressing this concern.

Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connection to the Branch (use of power strips).

Top Cover - There are no serviceable parts inside the product so, the Top Cover should not be removed. If the Top Cover is removed the ground strap and associated screw MUST BE REINSTALLED prior to Top Cover screw replacement. FAILURE TO DO this may cause INGRESS and/or EGRESS emission problems.

2. Connect data to the data input (J1).

Insure the mode switch is in the 1:8 position.

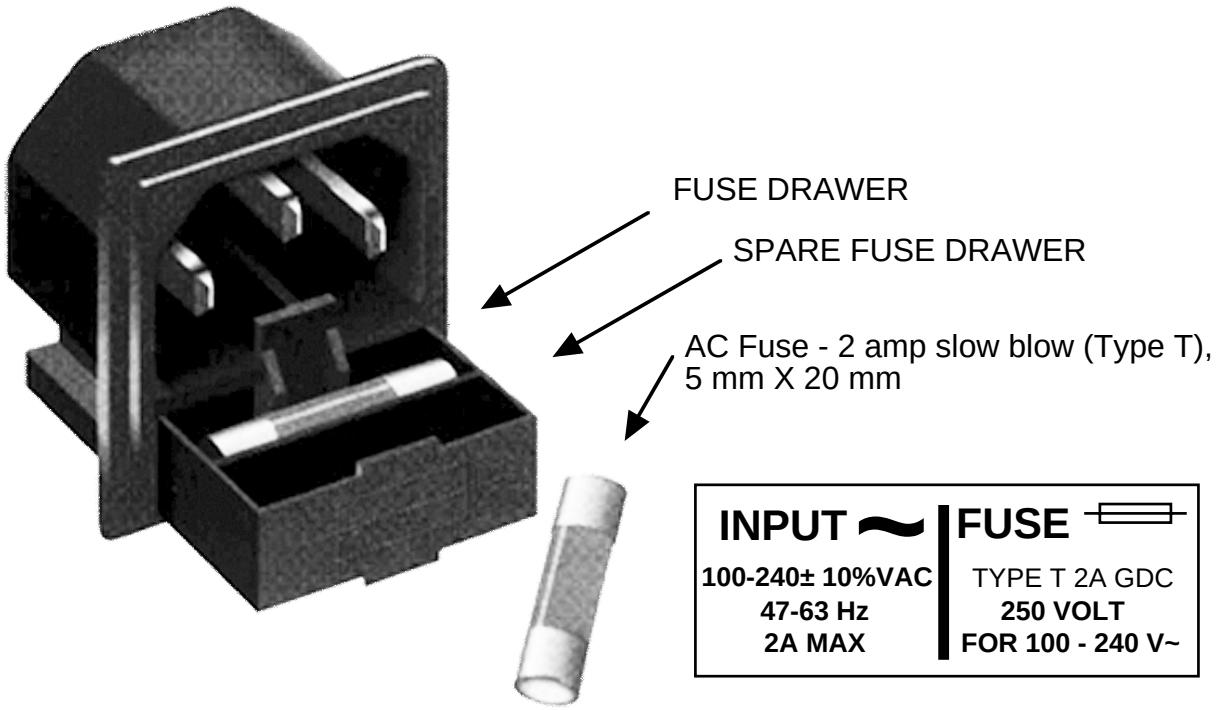
Verify data out on the DATA OUTPUT connectors (J4, J5, J6, J7, J8, J9, J10, J11).

Note that J2 is a hard wired loop of the input and will always pass data even when power if off.

3. Connect power via two power cords.

AC Fuse - The fuse is a 5 mm X 20 mm, 2 amp slow blow (Type T) and is inserted in the far slot in the drawer below the AC input as shown in Figure 2.3. There is a spare fuse in the near slot. If a fuse continues to open, the power supply is most likely defective.

FIGURE 2.5 Slow blow AC Fuse/Drawer



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