

2.1 Common Features

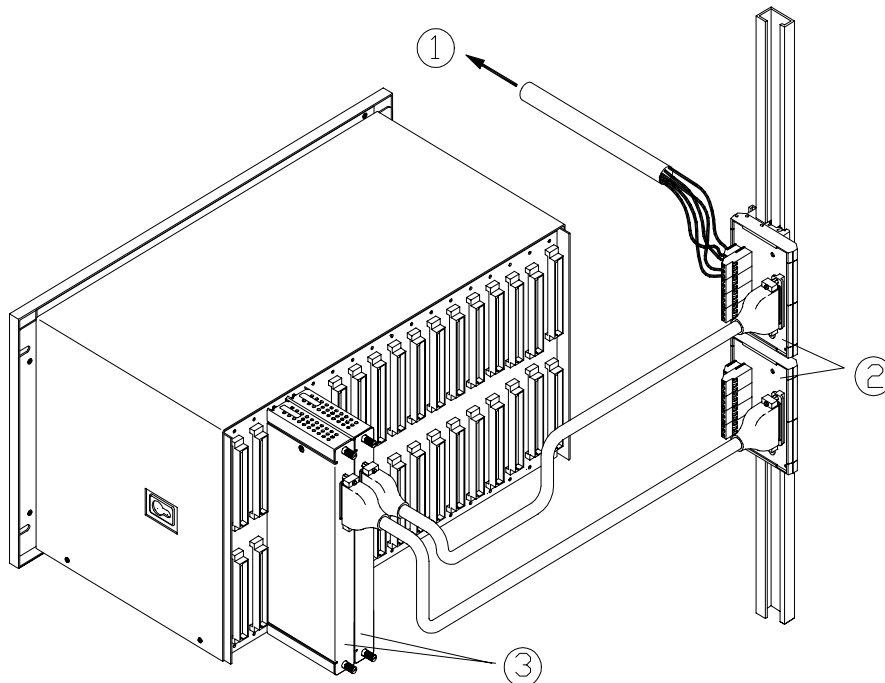
The common features of the modules in the 3500 rack include hot insertion or removal of modules and external and internal termination of the wiring.

2.1.1 Hot Insertion or Removal of Modules

When performed properly, any module can be removed and replaced while the system is under power without affecting the operation of any unrelated modules. If the rack has two power supplies, removing or inserting a power supply will not disrupt the operation of the 3500 rack. See "Module Installation and Removal" on page 57 for the proper procedure.

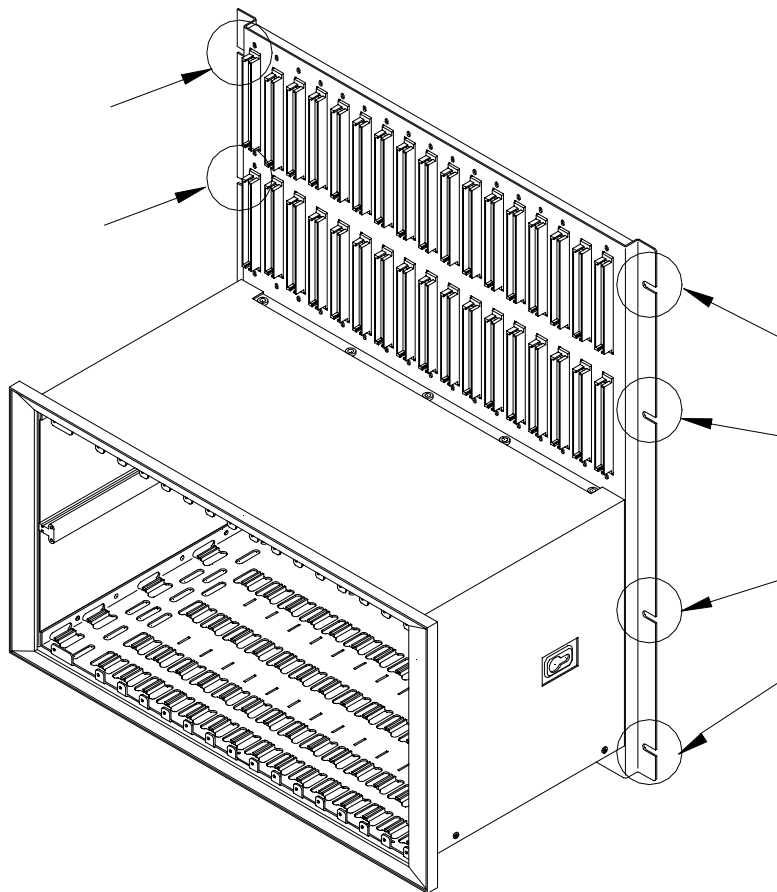
2.1.2 External and Internal Termination

External Termination uses multi-conductor cables to connect the I/O modules to the terminal blocks. These blocks make it easier to connect many wires to the rack in tight areas. External Termination is not available on I/O modules with internal zener barriers.



- (1) To Transducers.
- (2) External Termination Blocks.
- (3) External Termination I/O Modules.

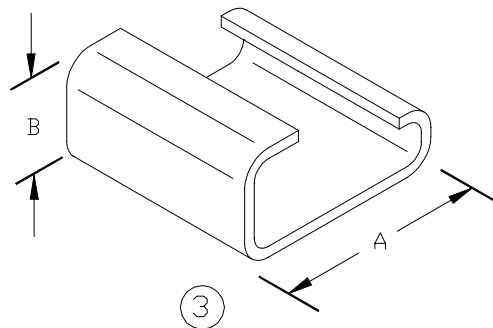
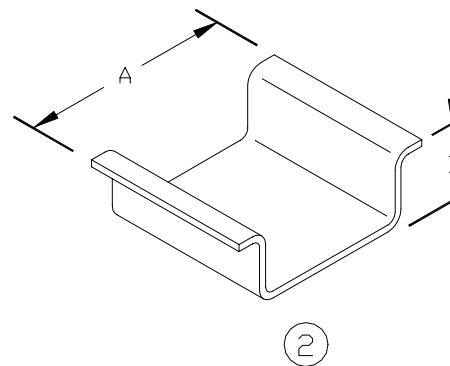
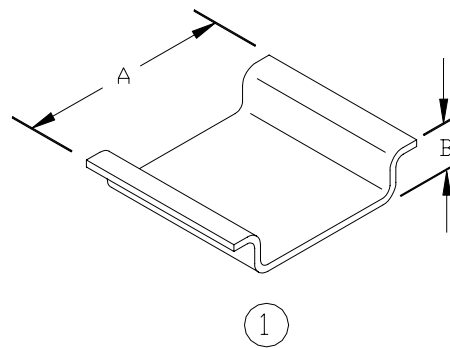
Internal Termination lets you connect transducers directly to the I/O modules.



3.5 External Termination Blocks

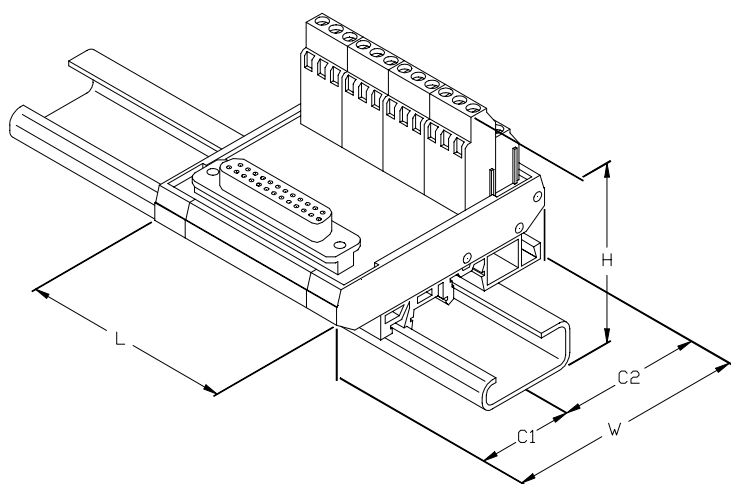
“External and Internal Termination” on page 4 briefly described when External Termination (ET) Blocks and I/O modules would be used and shows a diagram of the components assembled.

The diagram below shows some of the common DIN rail types that the ET Blocks can mount to.

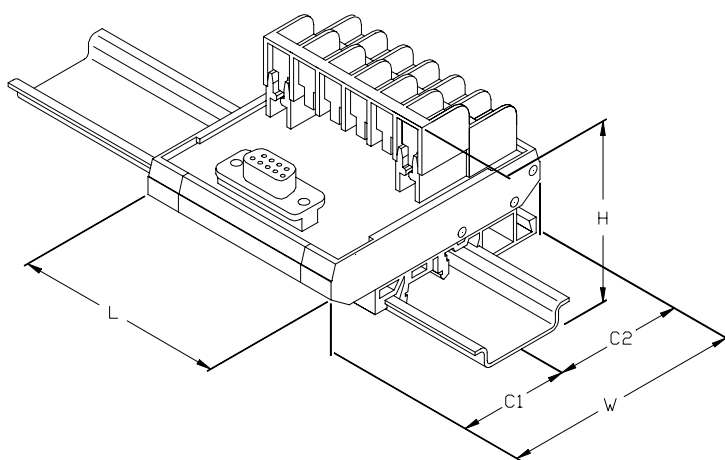


- (1) U-shaped rail. Dimension A = 35mm and dimension B = 7.5mm. This rail is referred to as U-Rail(7.5) in this section.
- (2) U-shaped rail. Dimension A = 35mm and dimension B = 15mm. This rail is referred to as U-Rail(15) in this section.
- (3) G-shaped rail. Dimension A = 32mm and dimension B = 15mm. This rail is referred to as G-Rail in this section.

The diagram below shows a Euro-style ET Block mounted on G-Rail.



The diagram below shows a Terminal-strip (or barrier type) ET Block mounted on G-Rail.



Either ET Block type can be mounted on any of the rail types mentioned above. For a more detailed picture of a particular ET Block, refer to the manual of the applicable 3500 monitor.

The table below lists the available ET Blocks and their dimensions. The location of the dimensions are shown in the diagrams above. All dimensions are in mm.

Part Number	L	W	H – U-Rail(7.5) H – U-Rail (15) H – G-Rail	C1	C2
128710	68	77	51 59 57	39	39

125808 128702 133900 141208	68	77	58 66 63	39	39
128718 133932 136603 140993	90	77	58 66 63	39	39
128726	90	77	51 59 57	39	39
133916	113	77	58 66 63	39	39
128015 133892 133924 136595 141001	113	77	51 59 57	39	39
132242	153	90	67 75 73	46	43
133908 141216	153	90	60 68 65	46	43
132234	178	90	60 68 65	46	43

3.6 Intrinsically Safe Installation

For correct operation of an I.S. installation, you must maintain a low resistance path to the I.S. earth point of the plant. Either one or two cables of less than 1 ohm combined resistance must be connected to the Earthing Module in order to provide a connection between the rack and the plant I.S. earth. These cables must have a cross-sectional area of between 4 mm² and 10 mm².

The optimum solution is to use two cables to connect from the Earthing Module to plant I.S. earth. This connection lets you test the continuity of the I.S. earth connection on-line. If one cable is disconnected from the Earthing Module then the resistance of the two cables can be measured using a suitable milli-ohm meter. A total resistance of less than 2 ohms will ensure that the parallel combination of the two cables is less than 1 ohm. Continuity between the shield of the field wiring from the hazardous area and the Earthing Module should also be verified.

If the Earthing Module is positioned in the rack such that it would be difficult to remove one of the I.S. earth cables in order to perform on-line testing, then the