Model 1856-Z2A

Termination Panel

INSTRUCTION MANUAL

August, 1989

TABLE OF CONTENTS

32-channel Filtered Termination Panel

1U-high panel with terminations for 32 2-wire channels **1856**

Features

- **32 channels of I/O terminations with 19-inch rack mounting**
- **Dependable cage clamp connections to field wiring**
- **Includes input filters for use with the 4024 datalogger**

Typical Applications

- **Field wiring terminations**
- **Module I/O termination**
- **General-purpose patch panel**

General Description *(Product specifications and descriptions subject to change without notice.)*

The 1856 Termination Panel provides a convenient method for field termination of module I/O signals. Arranged for 19-inch relay rack mounting, the panel permits termination of 32 channels of I/O and occupies only 4.45 centimeters (1¾ inches) of rack height. The 32 channels are divided into two groups of 16 channels for mating with the 4054 Recording Datalogger. Each channel includes a balanced low-pass filter with a 3 dB cutoff at 7 kHz for use with the 4024 Recording Datalogger. This filter attenuates normal-mode and common-mode high-frequency "hash" that may be present in the signal path.

The 1856 panel uses 64 Wago® stainless steel, cage clamp springs to receive the field wiring. Each spring accepts a single solid or stranded conductor in wire sizes ranging from AWG 24 to AWG 14. The springs feature constant contact resistance, are vibration proof, and are easy to use. Each of these terminals is wired to a contact on a 34-contact flat-ribbon connector. This connector mates with a 5842-Axyz cable for connection to the 4024. This cable contains a 34S flat-cable connector on each end. Two such cables are required to terminate all 32 channels on the panel.

Ordering Information

Model 1856-Z2A 32-channel Rack Termination Panel with Filters

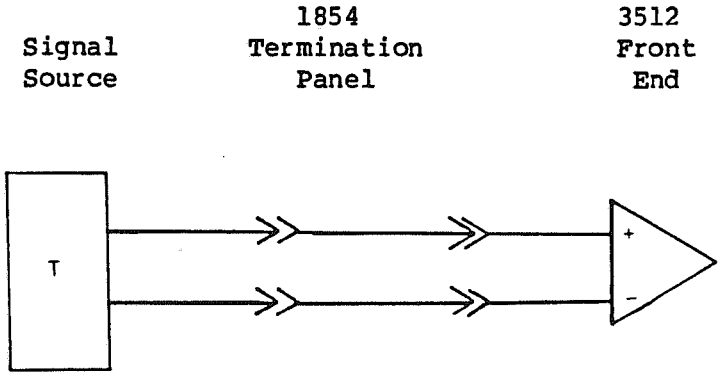
Related Products

Model 4024	Recording Datalogger
Model 5842-Axyz	Flat-ribbon Cable Assemblies (two required for 32-channels)

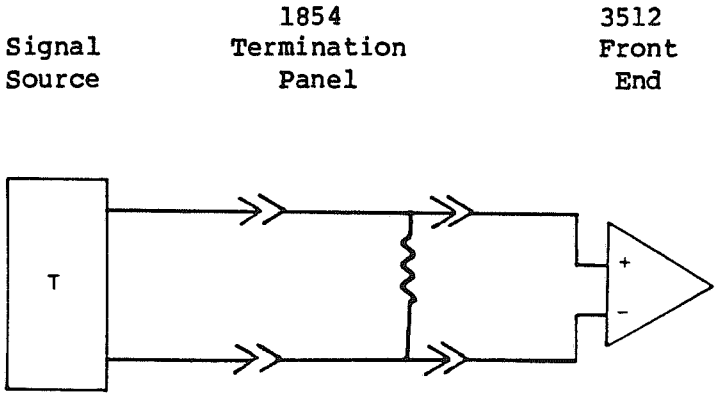
CHANNEL CONFIGURATIONS

The Model 1854 can be used in the following applications:

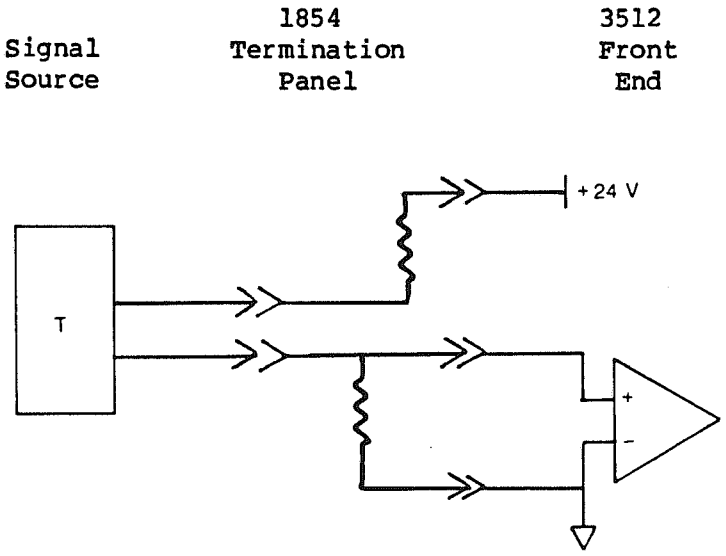
1. To connect differential voltage signals to Analog-to-Digital converter modules such as the Model 3512. In such a configuration, the Model 1854 appears as a straight through path to the signals:



2. To connect powered current loop transmitters to Analog-to-Digital converter modules (passive current loop operation). In this configuration, the Model 1854 puts a 250 ohm precision resistor across the input signal lines to convert the current value to a measurable voltage:



3. To connect current loop transmitters requiring a power source to Analog-to-Digital converter modules (active current loop operation). In this configuration, the power for the current loop is provided by the converter module:



The Model 1854 is arranged so that each channel of the termination can be configured for any of the applications listed above. Thus, a mixture of differential voltage signals, and active and passive current loops can be attached to the same converter modules through the Model 1854.

OPTION STRAPPING

Each channel of the Model 1854 has a set of six option posts which are used to strap that channel for the appropriate input signal type. These option posts look like the following:

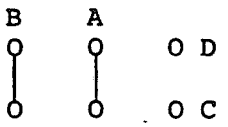
```
B       A
O       O  O D

O       O  O C
```

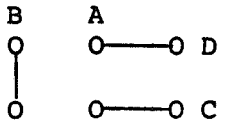
For a differential voltage signal, the two posts labeled "A" are jumpered together. That is, the strapping pattern look like the following:

```
B       A
O       O  O D
        |
O       O  O C
```

For a passive current loop signal, the "A" and "B" posts are jumpered together as follows:



For an active current loop signal, the "B", "C" and "D" posts are interconnected in the following manner:



Additional blank posts are provided for storing any unused jumper straps.

CONNECTION OF FIELD WIRING TO THE MODEL 1854

The Model 1854 is capable of accommodating up to thirty-two input signals. These 32 inputs are broken up into two groups of sixteen signals, one group each per Model 3512 (or Model 3514) Analog-to-Digital converter. On the front panel of the Model 1854, each input channel is marked with its channel number (1-16) and a polarity designator (+ or -) for each of the signal lines on that channel. When the input signal is a differential voltage or a passive current loop source, the signal should be connected such that the positive leg of the signal is tied to the terminal marked + and the negative or return leg of the signal tied to the terminal marked -.

When used in active current loop applications, the power (and ground path) for the current loop is provided, through the Model 1854, by the converter module. In these applications, the power for the transmitter is connected to the terminal marked + on the Model 1854 front panel, and the regulated current signal is brought back to the - terminal on the Model 1854.

The power for the active current loop signals is derived from the +24 volt power on the Model 3512 or 3514 converter modules. Approximately 12 volts is available to supply the transmitter at 20 milliamperes.

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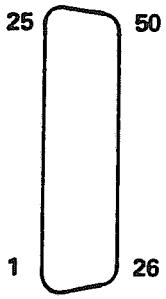
Model 1856-Z2A



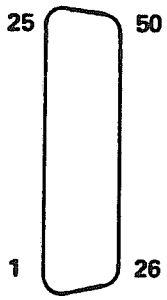
FACE VIEW

GROUP A
Pin/Wire List

50 PIN RIBBON CONN.

PIN NO.		PIN NO.	
25	Digital Ground	50	Digital Ground
24		49	
23	+24 V	48	+24 V
22		47	
21		46	
20		45	
19		44	
18		43	
17		42	
16	I/O 16 Positive	41	I/O 16 Negative
15	I/O 15 Positive	40	I/O 15 Negative
14	I/O 14 Positive	39	I/O 14 Negative
13	I/O 13 Positive	38	I/O 13 Negative
12	I/O 12 Positive	37	I/O 12 Negative
11	I/O 11 Positive	36	I/O 11 Negative
10	I/O 10 Positive	35	I/O 10 Negative
9	I/O 9 Positive	34	I/O 9 Negative
8	I/O 8 Positive	33	I/O 8 Negative
7	I/O 7 Positive	32	I/O 7 Negative
6	I/O 6 Positive	31	I/O 6 Negative
5	I/O 5 Positive	30	I/O 5 Negative
4	I/O 4 Positive	29	I/O 4 Negative
3	I/O 3 Positive	28	I/O 3 Negative
2	I/O 2 Positive	27	I/O 2 Negative
1	I/O 1 Positive	26	I/O 1 Negative

Model 1856-Z2A



FACE VIEW

GROUP B

Pin/Wire List

50 PIN RIBBON CONN.

PIN NO.		PIN NO.	
25	Digital Ground	50	Digital Ground
24		49	
23	+24 V	48	+24 V
22		47	
21		46	
20		45	
19		44	
18		43	
17		42	
16	I/O 16 Positive	41	I/O 16 Negative
15	I/O 15 Positive	40	I/O 15 Negative
14	I/O 14 Positive	39	I/O 14 Negative
13	I/O 13 Positive	38	I/O 13 Negative
12	I/O 12 Positive	37	I/O 12 Negative
11	I/O 11 Positive	36	I/O 11 Negative
10	I/O 10 Positive	35	I/O 10 Negative
9	I/O 9 Positive	34	I/O 9 Negative
8	I/O 8 Positive	33	I/O 8 Negative
7	I/O 7 Positive	32	I/O 7 Negative
6	I/O 6 Positive	31	I/O 6 Negative
5	I/O 5 Positive	30	I/O 5 Negative
4	I/O 4 Postive	29	I/O 4 Negative
3	I/O 3 Positive	28	I/O 3 Negative
2	I/O 2 Positive	27	I/O 2 Negative
1	I/O 1 Positive	26	I/O 1 Negative