

With compliments

Helmut Singer Elektronik

www.helmut-singer.de info@helmut-singer.de
fon +49 241 155 315 fax +49 241 152 066
Feldchen 16-24 D-52070 Aachen Germany

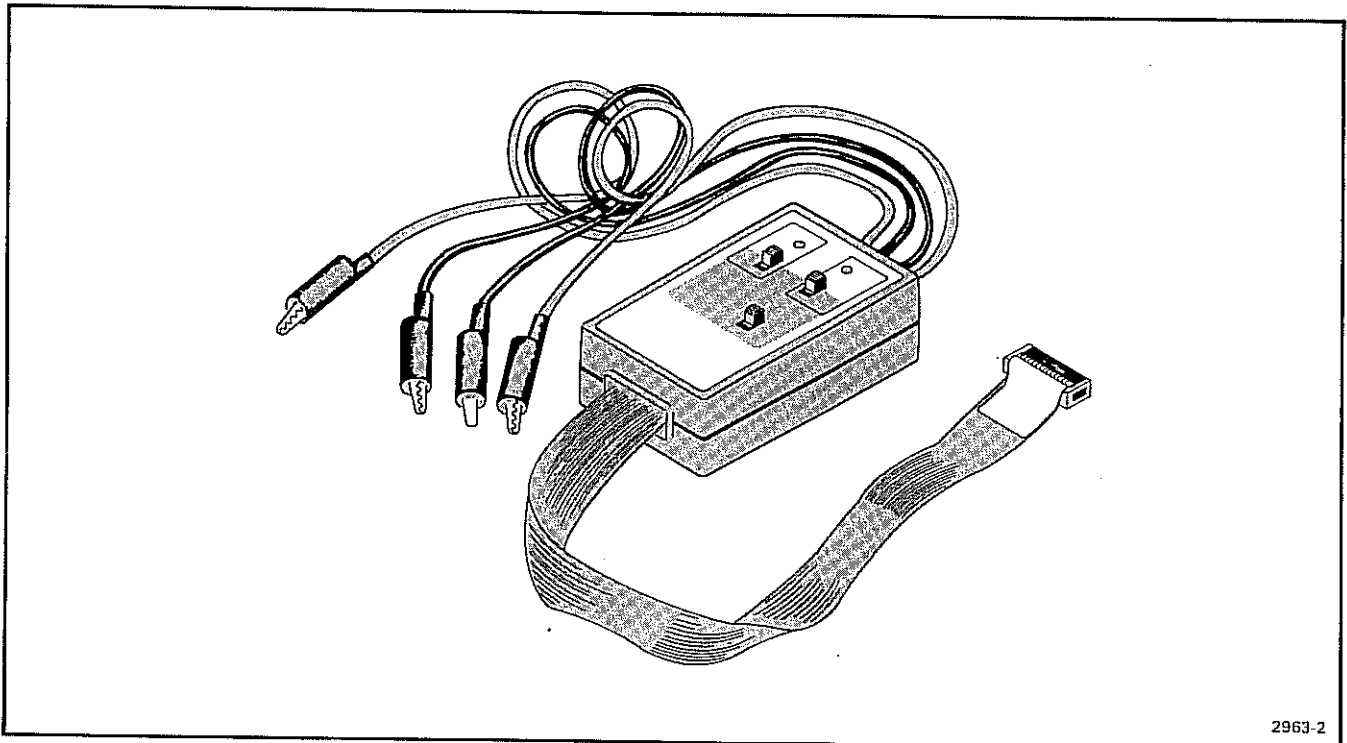
OPERATING INSTRUCTIONS

GENERAL INFORMATION

INTRODUCTION

The Current Loop Interface Adapter (015-0361-00) is a compact unit that allows Tektronix Data Communication Testers to monitor and send data through current loop interfaces rather than through the standard RS-232-C interfaces. The adapter can monitor both two-wire (simplex or half-duplex) and four-wire (full-duplex) lines.

The current source for each of the two loops is selectable by the operator and can be either externally supplied by the unit under test or internally provided by the adapter. This current loop testing capability is enabled whenever the 26-pin connector plug (P5100) on the end of the adapter cable is inserted into connector receptacle J5100 on the rear panel of the data comm tester.



2963-2

Fig. 1-1. Current Loop Interface Adapter.

SPECIFICATION

Table 1-1

ELECTRICAL CHARACTERISTICS

| Characteristics | Performance Requirements | Supplemental Information |
|-----------------|---|--------------------------|
| Current Sources | | |
| Internal | | |
| 20 mA | 18 mA \leq MARK \leq 22 mA. 0 mA \leq SPACE \leq 1.5 mA. | |

Operating Instructions—Current Loop Interface Adapter

Table 1-1 (cont)

| Characteristics | Performance Requirements | Supplemental Information |
|------------------------------------|---|--------------------------|
| 60 mA | 54 mA \leq MARK \leq 66 mA. 0 mA \leq SPACE \leq 1.5 mA. \geq 8 V can be supplied across current loop leads. | |
| External | 15 mA \leq MARK \leq 80 mA. 0 mA \leq SPACE \leq 1.5 mA. \leq 2 V required across T data leads. \leq 3 V required across R data leads. | |
| Current Loop Leads | | |
| Maximum Input Voltage | 125 V peak between leads. 125 V peak between either lead and ground. | External current source. |
| Maximum Output | $-30 \text{ V} \leq V_{\text{out}} \leq 0 \text{ V}$. | Internal current source. |
| Maximum Data Transfer Rate | | |
| Seven and Eight Bits per Character | \geq 9600 bits per second. | |
| Five and Six Bits | \geq 4800 bits per second. | |

Table 1-2
P5100 CONNECTIONS

| Pin Number | Type of Data |
|-------------------------------|--|
| OUTPUTS: | |
| Pin 5 | 5 V (notifies Tester that Adapter is connected) |
| Pin 8 | R data |
| Pin 12 | Request to Send (held at ground) |
| Pin 19 | T data |
| Pin 22 | Data Terminal Ready (held high) |
| INPUTS: | |
| Pin 10 | Data input disable |
| Pin 16 | Data input |
| POWER INPUTS FROM TESTER: | |
| Pins 7, 9, 11, 14, 17, 18, 20 | STATIC GROUND |
| Pins 13, 15 | CHASSIS GROUND |
| Pins 4, 23 | +5 V supply |
| Pins 1, 26 | -12 V supply, unregulated. (Normal range -14 to -24 V) |

Table 1-3
ENVIRONMENTAL CHARACTERISTICS

| Characteristics | Description |
|-----------------|---|
| Vibration | Vibration frequency cycled from 10 to 55 to 10 Hz (linear or logarithmic sweep) for a duration of 15 minutes in each major axis at a displacement of 0.050 inches (1.27 mm) peak-to-peak. Vibrated for 10 minutes in each major axis at any resonant frequencies. |
| Shock | 150 g's, 1/2-sine, 9 ms duration, three shocks in each major axis for a total of 18 shocks. |

Table 1-4
PHYSICAL CHARACTERISTICS

| Characteristics | Description |
|-------------------|----------------------------------|
| Overall Dimension | |
| Length | 5.4 inches (13.7 cm). |
| Width | 3.25 inches (8.25 cm). |
| Height | 1.6 inches (4.1 cm). |
| Weight | Not more than 1 pound (0.45 kg). |

CONTROLS, CONNECTORS, AND INDICATORS

The locations of the Current Loop Interface Adapter controls, connectors, and indicators are depicted in Fig. 1-2 and are keyed to the following descriptions.

R-DATA LOOP

① **Test Leads**—Two color coded test leads are connected in series with the Receive-Data Current Loop. Current flows into the black lead and out of the red lead, as marked by the arrows on the front panel. Data on this loop will be treated as Data Communications Equipment (DCE) data by the data comm tester. In the Simulate, Echo, and Repeat modes, data is transmitted by the tester on this loop. In the two-wire mode, use this loop only and set data comm tester for half-duplex (HDX) operation.

② **REV Indicator**—A reverse LED that illuminates whenever current is flowing backwards in the R-Data Loop, indicating that test leads should be reversed.

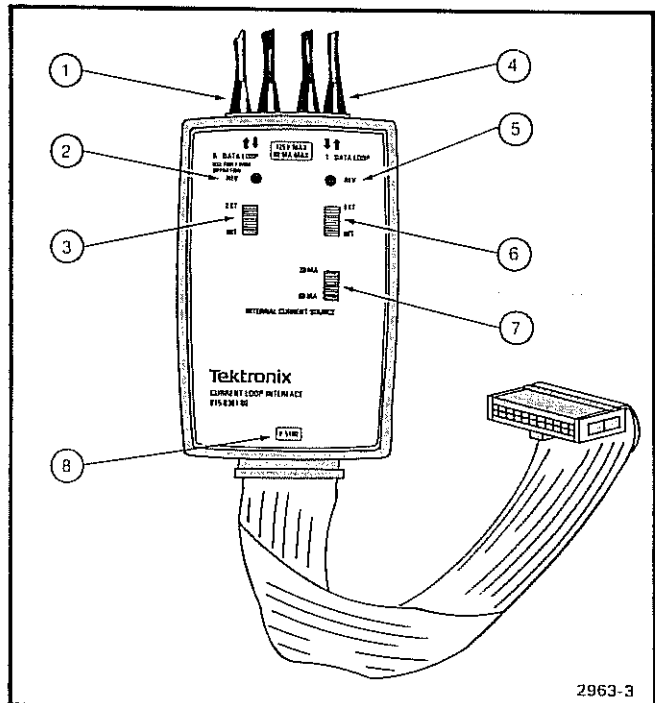


Fig. 1-2. Location of Controls, Connectors, and Indicators.