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Static mode operation	Sync resource does not operate in static timing mode.

M917-02 C-Size Channel Card Specifications

The following sections contain specifications that pertain to the M917-02 C-size channel card.

General Specifications and Feature List

Table A-13 lists the general specifications and features of the M917-02 C-size channel card.

Table A-13. M917-02 General Specifications and Features

Specification	Value
Number of channels per channel card	64
Digital connect relay	One per channel, resets open
Analog matrix relay	None
Driver phases per channel card	4
Test windows per channel card	4
Active load	Yes
Active load current control flexibility	Magnitude of IOH and IOL are independent
Driver output impedance	50 ohm only
Slew rate control	HIGH, MEDIUM, and LOW; defaults to MEDIUM
Timing sets (TSETs)	256
Channel RAM depth	32K
Clocks per pattern (CPP)	1 - 256
Number of formats supported	5
Number of opcodes supported	14
Pipeline depth	16
Mean time between failures (MTBF)	Approximately 43,000 hours at 25 °C
Input capacitance	110 pF, typical
Detector voltage range	-2 V to +5 V
Detector voltage accuracy	± (50 mV + 1% of programmed voltage)
Detector resolution	10 mV
Minimum input pulse width	15 ns
Detector leakage at 25 °C, maximum	25 microamperes
Overvoltage protection	-5.7 V to +9.0 V
ESD voltage	2,000 V, human body model

VXI Specifications

Table A-14 lists the M917-02 C-size channel card VXI specifications.

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Table A-14. M917-02 VXI Specifications

Specification	Value
VXI manufacturer ID	Hex EDF
VXI device type	Register based A16/A24 D16:D08 Interrupter
VXI model code	Hex 8A0
Memory requirements	64K of A24 memory
VXI local-bus keying	Any instrument to the left; special key, for Teradyne instruments only, to the right
VXI TTL trigger-bus usage	Not used
VXI ECL trigger-bus usage	Either ECLTRG0* or ECLTRG1*, under software control

Mechanical and Environmental

Table A-15 lists the M917-02 C-size channel card mechanical and environmental specifications.

Table A-15. M917-02 Mechanical and Environmental Specifications

Specification	Value
Weight of channel card	Approximately 5.3 lbs (2400 g)
External adapter mounting points	Three M3/50 threaded holes, 0.375 in (9.5 mm) maximum penetration beyond front panel surface
Operating temperature	-10 °C to +55 °C
Operating humidity	5% to 95%, noncondensing, over the full operating range
Operating altitude	10,000 ft (3,000 m), maximum
Warm-up time	20 min
Storage temperature	-40 °C to +70 °C
Storage humidity	95%, noncondensing
Storage altitude	15,000 ft (4,500 m), maximum
Temperature rise across M910	10 °C to 15 °C nominal
Shock and vibration	Shock as per 3.7.3 of MIL-T-28800E for style C, Type II, Class 3Vibration as per 3.7.4 of MIL-T-28800
Radiated emissions (1 CRB and 3 channel cards)	Not applicable

Power Draw Specifications

Table A-16 lists the M917-02 C-size channel card power draw specifications.

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Table A-16. M917-02 Power Draw Specifications

Voltage	Peak Current (I_{Pm})	Dynamic Current (I_{Dm})	Maximum Power Draw	No Load Current Draw	Low Power Mode
+5 V	6.6 A	1.0 A	33 W	6.6 A	6.6 A
-2 V	6.3 A	0.4 A	12.6 W	6.0 A	6.0 A
+12 V	0.2 A	0 A	2.4 W	0.2 A	0.2 A
-12 V	0.2 A	0 A	2.4 W	0.2 A	0.2 A
-5.2 V	8.4 A	0.8 A	see * below	6.4 A	1.9 A
+24 V	1.43 A	0.6 A	see * below	0.8 A	0.0 A
-24 V	1.43 A	0.7 A	see * below	0.8 A	0.0 A

* Maximum power draw for -5.2 V, +24 V, and -24 V together is 99.6 W.

Maximum total power dissipated for all voltages together is 150 W.

Static Pressure Loss vs. Airflow (Delta P vs. Q)

Figure A-3 graphs the relationship between pressure drop and airflow for the M917-02 C-size channel card.

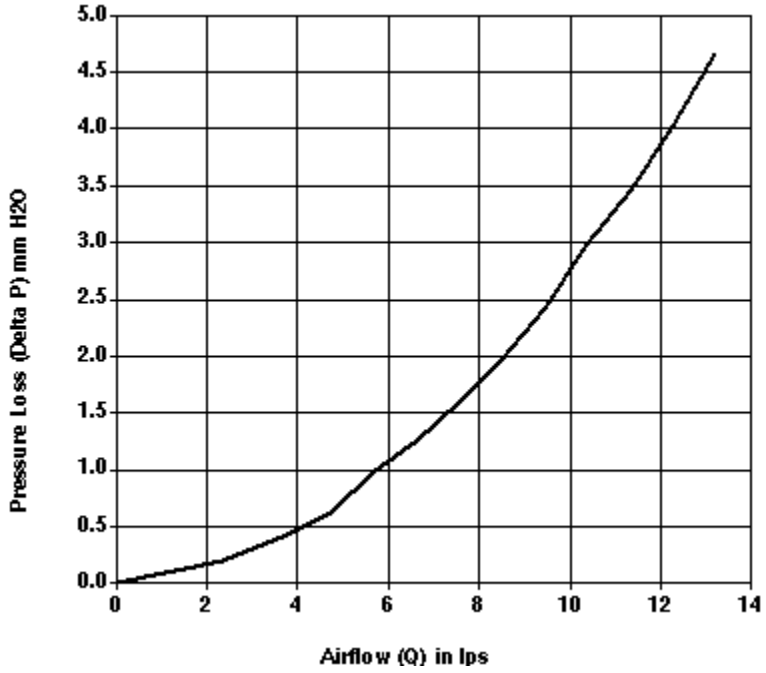


Figure A-3. M917-02 Static Pressure Loss vs. Airflow

Ambient Temperature vs. Airflow

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Figure A-4 graphs the relationship between the maximum ambient temperature and airflow for the M917-02 C-size channel card.

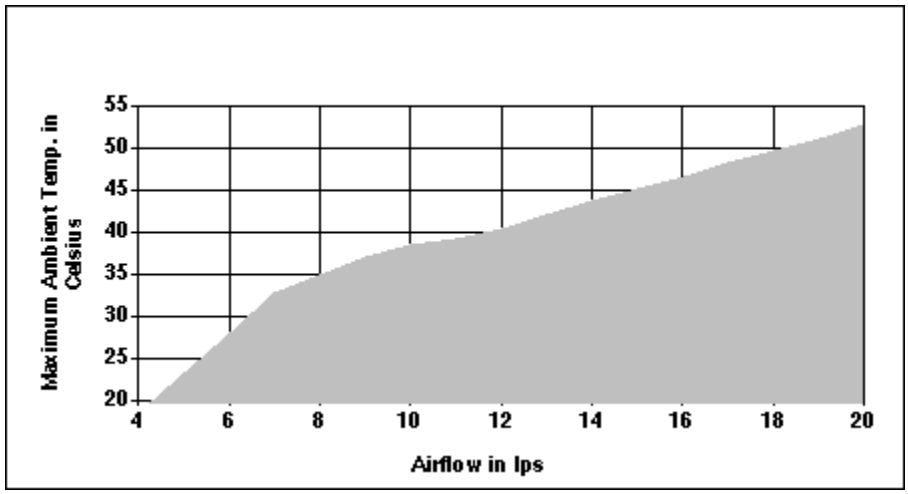


Figure A-4. M917-02 Maximum Ambient Temperature vs. Airflow

Timing Specifications

Table A-17 lists the M917-02 C-size channel card timing specifications.

Table A-17. M917-02 Timing Specifications

Specification	Value
Maximum data rate	25 MHz (40 ns period)
Minimum data rate	15.2 kHz (65.536 microsecond period)
Driver absolute accuracy (across system)	±5 ns (within ±5 °C of the temperature when the system was aligned) ±1 ns per ±5 °C
Detector absolute accuracy (across system)	±5 ns (within ±5 °C of the temperature when the system was aligned) ±1 ns per ±5 °C
Driver rising-edge to falling-edge skew	Slew Rate High: ± 1 nsSlew Rate Medium: ± 1 nsSlew Rate Low: ± 5 ns
Allowed voltage swing for timing alignment	0.8 V to 3.0 V peak-to-peak
Timing accuracy reference point	50% of voltage swing
Maximum output cable length for deskew	4 ft (1.2 m)
Phase resolution	1 ns (in 0-65 microsecond range)
Window resolution	1 ns (in 0-65 microsecond range)
Minimum phase pulse width	10 ns
Minimum window pulse width	10 ns
Phase dead time	0 ns

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Window dead time	0 ns
Dynamic pattern set timeout counter range	20 ns to 85.899 sec
Dynamic pattern set timeout counter resolution	20 ns
Dynamic pattern set timeout counter accuracy	± 30 ns across system
Static pattern delay range	100 ns to 6.5536 milliseconds
Static pattern delay resolution	100 ns
Static pattern delay accuracy	± 100 ns across system
Edge placement resolution	1 ns

Slow-Mode Specifications

Table A-18 lists the specifications for slow-mode operation of M917-02 C-size channel cards.

Table A-18. M917-02 Slow-Mode Specifications

Specification	Value
Maximum data rate	250 kHz (4 microsecond period)
Minimum data rate	76 Hz (13 millisecond period)
Edge placement resolution	200 ns (in 4 microsecond - 13 millisecond range)
Phase resolution	200 ns (in 4 microsecond - 13 millisecond range)
Phase offset	+6000 ns from programmed value
Window resolution	200 ns (in 4 microsecond - 13 millisecond range)
Window offset	+200 ns from drive phase offset
Driver accuracy (same drive phase, across system)	± 40 ns
Detector accuracy (same test window, across system)	± 50 ns

Driver Specifications

Table A-19 lists the M917-02 C-size channel card driver specifications. (All specifications are referenced to the front panel ground reference input, with the ground reference set to external.)

Table A-19. M917-02 Driver Specifications

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Specification	Value
Minimum driver pulse width	40 ns @TTL levels
Minimum separation between either detect level and VCOM	50 mV
Minimum voltage swing	400 mV
Driver voltage range	-2 V to +5 V
Driver accuracy (no load)	± (50 mV + 1% of programmed voltage)
Driver voltage resolution	10 mV
Rise time (20%-80%) full scale, slew rate at HIGH	10 ns, typical
Driver output impedance, 50 ohm mode	50 ohm ± 5 ohm
DC current per driver	50 mA per driver, with a 1.6 A limit for the sum of all drivers across the channel cardAverages to 25 mA per driver
Slew rate at HIGH	0.5 V/ns, typical
Slew rate at MEDIUM	0.25 V/ns, typical
Slew rate at LOW	0.1 V/ns, typical
Overshoot (single channel)	0 V to 5 V swing; 2% maximum -1.8 V to -0.8 V swing: 20%, maximum, slew rate at HIGH
Preshoot (single channel)	0 V to 5 V swing; 2% maximum -1.8 V to -0.8 V swing: 10%, maximum, slew rate at HIGH
Settling time (from 90% to 3% of the final value)	0 V to 5 V swing; 8.5 ns, typical -1.8 V to -0.8 V swing; 10 ns, typical, slew rate at HIGH

Detector Specifications

Table A-20 lists the M917-02 C-size channel card detector specifications.

Table A-20. M917-02 Detector Specifications

Specification	Value
Input capacitance	110 pF, typical
Detector voltage range	-2 V to +5 V
Detector voltage accuracy	± (50 mV + 1% of programmed voltage)
Detector resolution	10 mV
Minimum separation between either detect level and the load voltage (VCOM) level	50 mV
Minimum input pulse width	15 ns
Detector leakage at 25 °C, maximum	25 microamperes
Overvoltage protection	-5.7 V to +9.0 V
ESD voltage	2,000 V, human body model

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Load Specifications

Table A-21 lists the M917-02 C-size channel card load specifications. (All specifications are referenced to the front panel ground reference input, with the ground reference set to external; all specifications are for magnitude of IOH=IOL.)

Table A-21. M917-02 Load Specifications

Specification	Value
Load current range	1 mA to 10 mA
Load current resolution	50 microamperes
Load current accuracy	± (120 microamperes + 3% of programmed current) when the difference between VCOM and the pin voltage is >300 mV
Load voltage (VCOM) range	-2 V to +5 V
Load voltage (VCOM) resolution	10 mV
Load voltage (VCOM) accuracy	± (50 mV + 1% of programmed voltage)
Default VCOM Level	0 V

Miscellaneous Specifications

Table A-22 lists the M917-02 C-size channel card miscellaneous specifications.

Table A-22. M917-02 Miscellaneous Specifications

Specification	Value
Ground reference input current	10 nA, maximum
Ground reference interrupt voltage	Any voltage beyond ± 390 mV
Ground reference interrupt voltage accuracy	± 5%
Ground reference offset absolute maximum	± 2 V
Backplane maximum insertion/extraction cycles	400
Front panel connector plating	30 microinches of Au

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Appendix B

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CE-Certified M917-04 Channel Card Specifications

This appendix lists the specifications that pertain to the CE-certified M917-04 C-size channel card, and covers:

- General specifications and feature list
- VXI specifications
- Mechanical and environmental specifications
- Power draw specifications
- Static pressure drop vs. airflow (delta P vs Q)
- Ambient temperature vs. airflow
- Timing specifications
- Slow-mode specifications
- Driver specifications
- Detector specifications
- Load specifications
- Miscellaneous specifications

General Specifications and Feature List

Table B-1 lists the general specifications and features of the CE-certified M917-04 C-size channel card.

Table B-1. CE-Certified M917-04 General Specifications and Features

Specification	Value
Number of channels per channel card	64
Digital connect relay	One per channel, resets open
Analog matrix relay	None
Driver phases per channel card	4
Test windows per channel card	4
Active load	Yes
Active load current control flexibility	Magnitude of IOH and IOL are independent
Driver output impedance	50 ohm only
Slew rate control	HIGH, MEDIUM, and LOW; defaults to MEDIUM
Timing sets (TSETs)	256
Channel RAM depth	32K
Clocks per pattern (CPP)	1 - 256
Number of formats supported	5
Number of opcodes supported	14
Pipeline depth	16

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Mean time between failures (MTBF)	Approximately 43,000 hours at 25 °C
Input capacitance	110 pF, typical
Detector voltage range	-2 V to +5 V
Detector voltage accuracy	± (50 mV + 1% of programmed voltage)
Detector resolution	10 mV
Minimum input pulse width	15 ns
Detector leakage at 25 °C, maximum	25 microamperes
Overvoltage protection	-5.7 V to +9.0 V
ESD voltage	2,000 V, human body model

VXI Specifications

Table B-2 lists the CE-certified M917-04 C-size channel card VXI specifications.

Table B-2. CE-Certified M917-04 VXI Specifications

Specification	Value
VXI manufacturer ID	Hex EDF
VXI device type	Register based A16/A24 D16:D08 Interrupter
VXI model code	Hex 8A0
Memory requirements	64K of A24 memory
VXI local-bus keying	Any instrument to the left; special key, for Teradyne instruments only, to the right
VXI TTL trigger-bus usage	Not used
VXI ECL trigger-bus usage	Either ECLTRG0* or ECLTRG1*, under software control

Mechanical and Environmental Specifications

Table B-3 lists the CE-certified M917-04 C-size channel card mechanical and environmental specifications.

Table B-3. CE-Certified M917-04 Mechanical and Environmental Specifications

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Specification	Value
Weight of channel card	Approximately 5.3 lbs (2400 g)
External adapter mounting points	Three M3/50 threaded holes, 0.375 in (9.5 mm) maximum penetration beyond front panel surface
Operating temperature	-10 °C to +55 °C
Operating humidity	5% to 95%, noncondensing, over the full operating range
Operating altitude	10,000 ft (3,000 m), maximum
Warm-up time	20 minutes
Storage temperature	-40 °C to +70 °C
Storage humidity	95%, noncondensing
Storage altitude	15,000 ft (4,500 m), maximum
Temperature rise across M910	10 °C to 15 °C nominal
Shock and vibration	Shock as per 3.7.3 of MIL-T-28800E for style C, Type II, Class 3Vibration as per 3.7.4 of MIL-T-28800
Radiated emissions (1 CRB and 3 channel cards)	EN55011 Class A limit @ 30m (dBµV/m)
Safety agency approvals	Conformité Européenne (CE) Mark

Power Draw Specifications

Table B-4 lists the CE-certified M917-04 C-size channel card power draw specifications.

Table B-4. CE-Certified M917-04 Power Draw Specifications

Voltage	Peak Current (I_{Pm})	Dynamic Current (I_{Dm})	Maximum Power Draw	No Load Current Draw	Low Power Mode
+5 V	6.6 A	1.0 A	33 W	6.6 A	6.6 A
-2 V	6.3 A	0.4 A	12.6 W	6.0 A	6.0 A
+12 V	0.2 A	0 A	2.4 W	0.2 A	0.2 A
-12 V	0.2 A	0 A	2.4 W	0.2 A	0.2 A
-5.2 V	8.4 A	0.8 A	see * below	6.4 A	1.9 A
+24 V	1.43 A	0.6 A	see * below	0.8 A	0.0 A
-24 V	1.43 A	0.7 A	see * below	0.8 A	0.0 A

* Maximum power draw for -5.2 V, +24 V, and -24 V together is 99.6 W.


Maximum total power dissipated for all voltages together is 150 W.

Static Pressure Loss vs. Airflow (Delta P vs. Q)

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Figure B-1 graphs the relationship between pressure drop and airflow for the CE-certified M917-04 C-size channel card.

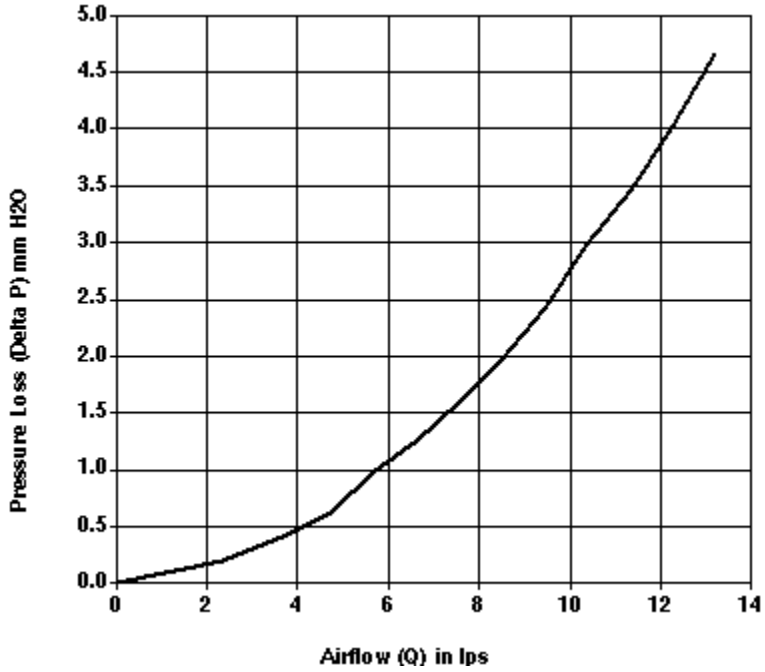


Figure B-1. CE-Certified M917-04 Static Pressure Loss vs. Airflow

Ambient Temperature vs. Airflow

Figure B-2 graphs the relationship between the maximum ambient temperature and airflow for the CE-certified M917-04 C-size channel card.

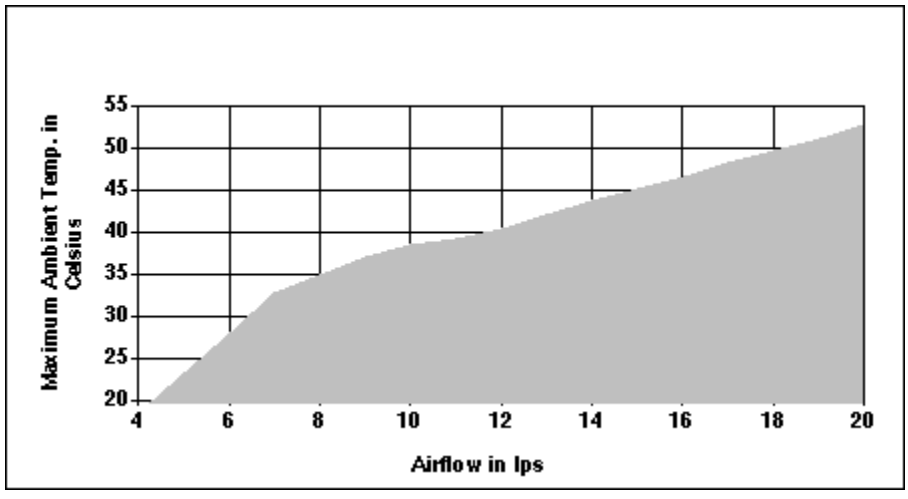


Figure B-2. CE-Certified M917-04 Maximum Ambient Temperature vs. Airflow

Timing Specifications

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Table B-5 lists the CE-certified M917-04 C-size channel card timing specifications.

Table B-5. CE-Certified M917-04 Timing Specifications

Specification	Value
Maximum data rate	25 MHz (40 ns period)
Minimum data rate	15.2 kHz (65.536 microsecond period)
Driver absolute accuracy (across system)	±5 ns (within ±5 °C of the temperature when the system was aligned) ±1 ns per ±5 °C
Detector absolute accuracy (across system)	±5 ns (within ±5 °C of the temperature when the system was aligned) ±1 ns per ±5 °C
Driver rising-edge to falling-edge skew	Slew Rate High: ± 1 nsSlew Rate Medium: ± 1 nsSlew Rate Low: ± 5 ns
Allowed voltage swing for timing alignment	0.8 V to 3.0 V peak-to-peak
Timing accuracy reference point	50% of voltage swing
Maximum output cable length for deskew	4 ft (1.2 m)
Phase resolution	1 ns (in 0-65 microsecond range)
Window resolution	1 ns (in 0-65 microsecond range)
Minimum phase pulse width	10 ns
Minimum window pulse width	10 ns
Phase dead time	0 ns
Window dead time	0 ns
Dynamic pattern set timeout counter range	20 ns to 85.899 sec
Dynamic pattern set timeout counter resolution	20 ns
Dynamic pattern set timeout counter accuracy	± 30 ns across system
Static pattern delay range	100 ns to 6.5536 ms
Static pattern delay resolution	100 ns
Static pattern delay accuracy	± 100 ns across system
Edge placement resolution	1 ns

Slow-Mode Specifications

Table B-6 lists the specifications for slow-mode operation of CE-certified M917-04 C-size channel cards.

Table B-6. Slow-Mode Specifications for CE-Certified M917-04

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Specification	Value
Maximum data rate	250 kHz (4 microsecond period)
Minimum data rate	76 Hz (13 millisecond period)
Edge placement resolution	200 ns (in 4 microsecond - 13 millisecond range)
Phase resolution	200 ns (in 4 microsecond - 13 millisecond range)
Window resolution	200 ns (in 4 microsecond - 13 millisecond range)
Phase offset	+6000 ns from programmed value
Window offset	+200 ns from drive phase offset
Driver accuracy (same drive phase, across system)	± 40 ns
Detector accuracy (same test window, across system)	± 50 ns

Driver Specifications

Table B-7 lists the CE-certified M917-04 C-size channel card driver specifications. (All specifications are referenced to the front panel ground reference input, with the ground reference set to external.)

Table B-7. CE-Certified M917-04 Driver Specifications

Specification	Value
Minimum driver pulse width	40 ns @TTL levels
Minimum separation between either detect level and VCOM	50 mV
Minimum voltage swing	400 mV
Driver voltage range	-2 V to +5 V
Driver accuracy (no load)	±50 mV + 1% of programmed voltage
Driver voltage resolution	10 mV
Rise time (20%-80%) full scale, slew rate at HIGH	10 ns, typical
Driver output impedance, 50 ohm mode	50 ohm ± 5 ohm
DC current per driver	50 mA per driver, with a 1.6 A limit for the sum of all drivers across the channel cardAverages to 25 mA per driver
Slew rate at HIGH	0.5 V/ns, typical
Slew rate at MEDIUM	0.25 V/ns, typical
Slew rate at LOW	0.1 V/ns, typical
Overshoot (single channel)	0 V to 5 V swing; 2% maximum -1.8 V to -0.8 V swing: 20%, maximum, slew rate at HIGH

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Preshoot (single channel)	0 V to 5 V swing; 2% maximum -1.8 V to -0.8 V swing: 10%, maximum, slew rate at HIGH
Settling time (from 90% to 3% of the final value)	0 V to 5 V swing; 8.5 ns, typical -1.8 V to -0.8 V swing; 10 ns, typical, slew rate at HIGH

Detector Specifications

Table B-8 lists the CE-certified M917-04 C-size channel card detector specifications.

Table B-8. CE-Certified M917-04 Detector Specifications

Specification	Value
Input capacitance	110 pF, typical
Detector voltage range	-2 V to +5 V
Detector voltage accuracy	± 50 mV + 1% of programmed voltage
Detector resolution	10 mV
Minimum separation between either detect level and the load voltage (VCOM) level	50 mV
Minimum input pulse width	15 ns
Detector leakage at 25 °C, maximum	25 microamperes
Overvoltage protection	-5.7 V to +9.0 V
ESD voltage	2,000 V, human body model

Load Specifications

Table B-9 lists the CE-certified M917-04 C-size channel card load specifications. (All specifications are referenced to the front panel ground reference input, with the ground reference set to external; all specifications are for magnitude of IOH=IOL.)

Table B-9. CE-Certified M917-04 Load Specifications

Specification	Value
Load current range	1 mA to 10 mA
Load current resolution	50 microamperes
Load current accuracy	± 120 microamperes + 3% of programmed current when the difference between VCOM and the pin voltage is >300 mV
Load voltage (VCOM) range	-2 V to +5 V
Load voltage (VCOM) resolution	10 mV
Load voltage (VCOM) accuracy	± 50 mV + 1% of programmed voltage

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Default VCOM Level 0 V

Miscellaneous Specifications

Table B-10 lists the CE-certified M917-04 C-size channel card miscellaneous specifications.

Table B-10. CE-Certified M917-04 Miscellaneous Specifications

Specification	Value
Ground reference input current	10 nA, maximum
Ground reference interrupt voltage	Any voltage beyond ± 390 mV
Ground reference interrupt voltage accuracy	± 5%
Ground reference offset absolute maximum	± 2 V
Backplane maximum insertion/extraction cycles	400
Front panel connector plating	30 microinches of Au

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Appendix C

M918-03 CRB Specifications

This appendix lists the specifications that pertain to the M918-03 C-size central resource board (CRB), and covers:

- General specifications and features list
- VXI specifications
- Mechanical and environmental specifications
- Power draw specifications
- Static pressure loss vs. airflow (delta P vs. Q)
- Ambient temperature vs. airflow
- Timing specifications
- Slow-mode specifications
- High-voltage utility pin specifications
- External I/O specifications
- Calibration I/O specifications
- User clock specifications
- Sync resources specifications
- System meter specifications

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For more information on the Diagnostic Probe, see Appendix J.

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2

Channel Card Front Panels and Connectors

This chapter describes the front panel connectors for each model of the M9-Series Digital Test Instrument (DTI) C-size channel card. The chapter covers:

- M917-02 channel card and M917-04 channel card front panel connectors
- M921-00 channel card front panel connectors
- M925-00 channel card front panel connectors
- M927-00 channel card and M927-04 channel card front panel connectors
- M967-01 channel card front panel connectors

M917-02 and M917-04 Front Panel Connectors

Both the M917-02 C-size channel card and the CE-certified M917-04 C-size channel card bring out 64 digital channels and their grounds (one per channel). Each channel card also has a reference ground input and uses four 50-pin ribbon-cable headers to establish connections. Because these ribbon-cable headers have "long ears," Teradyne recommends using strain-relieving mating connectors.

The ribbon-cable headers on the M917-02 and M917-04 support the following types of cables to connect channels:

- A standard mass-terminated ribbon cable with alternating signals and grounds, and a partially controlled impedance of about 75 ohms

  This cable is recommended only for low-performance applications. The slew rate should be set as low as possible.
- A mass-terminated, 55-ohm ground-plane ribbon cable that has alternating signals and grounds, and that automatically grounds the reference plane to either pin 1 or pin 50 (the most economical, general purpose cable)
- A Teflon 50-ohm ribbon cable with closely spaced alternating signals and grounds

  This cable gives slightly better performance than the 55-ohm ground-plane ribbon cable, as the impedance is 50 ohms instead of 55 ohms. However, these cables are custom-made and less economical.
- A 50-ohm coaxial cable assembly (the highest performance cable)

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Figure 2-1 shows the front panel connector layout for the M917-02 and M917-04 channel cards.

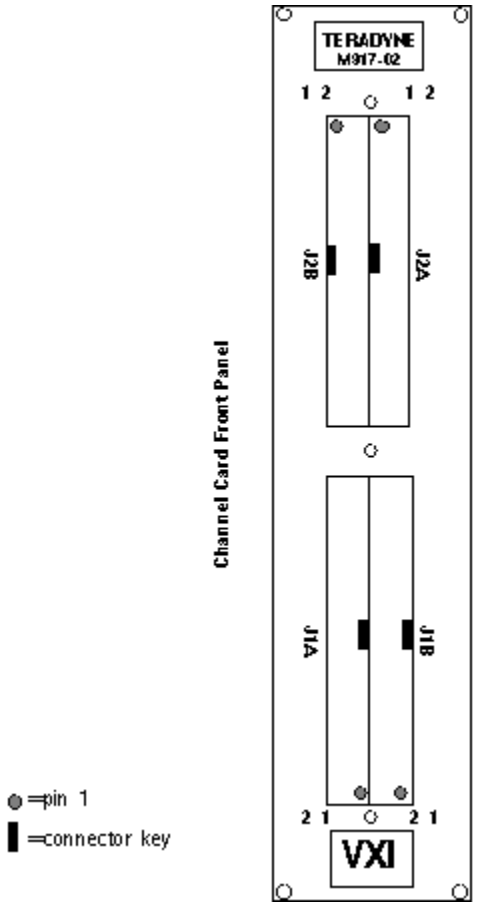


Figure 2-1. M917-02 and M917-04 Front Panel Connector Layout

M917-02 and M917-04 Front Panel Connectors and Connector Signals

Table 2-1 describes the front panel connectors and connector signals for the M917-02 and CE-certified M917-04 channel cards.

Table 2-1. M917-02 and M917-04 Front Panel Connector Signals

Name	Type	Signals	Recommended Mate
J1A	50-pin ribbon	Channels 0-15, ground reference input	3M: 3433-6650
J1B	50-pin ribbon	Reserved	3M: 3433-6650
J2A	50-pin ribbon	Channels 40-63	3M: 3433-6650
J2B	50-pin ribbon	Channels 16-39	3M: 3433-6650

M917-02 and M917-04 Front Panel Pinout Assignments

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The front panel connectors of the M917-02 and CE-certified M917-04 channel cards have pinouts with signals on even rows, grounds on odd rows, and an additional ground on pin 50.

The following tables show the pinout assignments for the M917-02 and M917-04 front-panel connectors:

- Table 2-2, M917-02 and M917-04 Connectors J1A and J1B
- Table 2-3, M917-02 and M917-04 Connectors J2B and J2A

Table 2-2. M917-02 and M917-04 Connectors J1A and J1B

J1A		J1B					
Pin	Name	Pin	Name	Pin	Name	Pin	Name
50	GND	49	GND	50	GND	49	GND
48	Channel 0	47	GND	48	Reserved	47	GND
46	Channel 1	45	GND	46	Reserved	45	GND
44	Channel 2	43	GND	44	Reserved	43	GND
42	Channel 3	41	GND	42	Reserved	41	GND
40	Channel 4	39	GND	40	Reserved	39	GND
38	Channel 5	37	GND	38	Reserved	37	GND
36	Channel 6	35	GND	36	Reserved	35	GND
34	Channel 7	33	GND	34	Reserved	33	GND
32	Channel 8	31	GND	32	Reserved	31	GND
30	Channel 9	29	GND	30	Reserved	29	GND
28	Channel 10	27	GND	28	Reserved	27	GND
26	Channel 11	25	GND	26	Reserved	25	GND
24	Channel 12	23	GND	24	Reserved	23	GND
22	Channel 13	21	GND	22	Reserved	21	GND
20	Channel 14	19	GND	20	Reserved	19	GND
18	Channel 15	17	GND	18	Reserved	17	GND
16	Ground Reference Input	15	GND	16	Reserved	15	GND
14	Reserved	13	GND	14	Reserved	13	GND
12	Reserved	11	GND	12	Reserved	11	GND
10	Reserved	9	GND	10	Reserved	9	GND
8	Reserved	7	GND	8	Reserved	7	GND
6	Reserved	5	GND	6	Reserved	5	GND
4	Reserved	3	GND	4	Reserved	3	GND
2	Reserved	1	GND	2	Reserved	1	GND

Table 2-3. M917-02 and M917-04 Connectors J2B and J2A

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J2B				J2A			
Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	GND	2	Channel 39	1	GND	2	Channel 63
3	GND	4	Channel 38	3	GND	4	Channel 62
5	GND	6	Channel 37	5	GND	6	Channel 61
7	GND	8	Channel 36	7	GND	8	Channel 60
9	GND	10	Channel 35	9	GND	10	Channel 59
11	GND	12	Channel 34	11	GND	12	Channel 58
13	GND	14	Channel 33	13	GND	14	Channel 57
15	GND	16	Channel 32	15	GND	16	Channel 56
17	GND	18	Channel 31	17	GND	18	Channel 55
19	GND	20	Channel 30	19	GND	20	Channel 54
21	GND	22	Channel 29	21	GND	22	Channel 53
23	GND	24	Channel 28	23	GND	24	Channel 52
25	GND	26	Channel 27	25	GND	26	Channel 51
27	GND	28	Channel 26	27	GND	28	Channel 50
29	GND	30	Channel 25	29	GND	30	Channel 49
31	GND	32	Channel 24	31	GND	32	Channel 48
33	GND	34	Channel 23	33	GND	34	Channel 47
35	GND	36	Channel 22	35	GND	36	Channel 46
37	GND	38	Channel 21	37	GND	38	Channel 45
39	GND	40	Channel 20	39	GND	40	Channel 44
41	GND	42	Channel 19	41	GND	42	Channel 43
43	GND	44	Channel 18	43	GND	44	Channel 42
45	GND	46	Channel 17	45	GND	46	Channel 41
47	GND	48	Channel 16	47	GND	48	Channel 40
49	GND	50	GND	49	GND	50	GND

M921-00 Front Panel Connectors

Both the M921-00 C-size channel card bring out 48 channels, 48 hybrid pins, and grounds for each channel and hybrid pin. Each channel card also has a reference ground input. In addition, the channel cards use six 34-pin ribbon-cable headers to establish connections. Because the ribbon-cable headers have "long ears," Teradyne recommends the use of strain-relieving mating connectors.

The ribbon-cable headers on the M921-00 allow use of the following types of cables to connect channels:

- A standard mass-terminated ribbon cable with alternating signals and grounds, and a partially controlled impedance of about 75 ohm.

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