

ZMI
Cable Guide
OMP-0333G



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MANUAL REVISION INFORMATION

The document (OMP) number and the applicable revision letter for this manual appear on the title page. The publication date appears below.

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B	December 1993	G	May 2000
C	December 1994		
D	April 1997		
E	September 1997		

MANUAL NOTATIONS



Warning! Denotes a hazard that could cause injury to personnel, and can also cause damage to the equipment.

Note: Provides helpful information.

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ZMI CABLE GUIDE

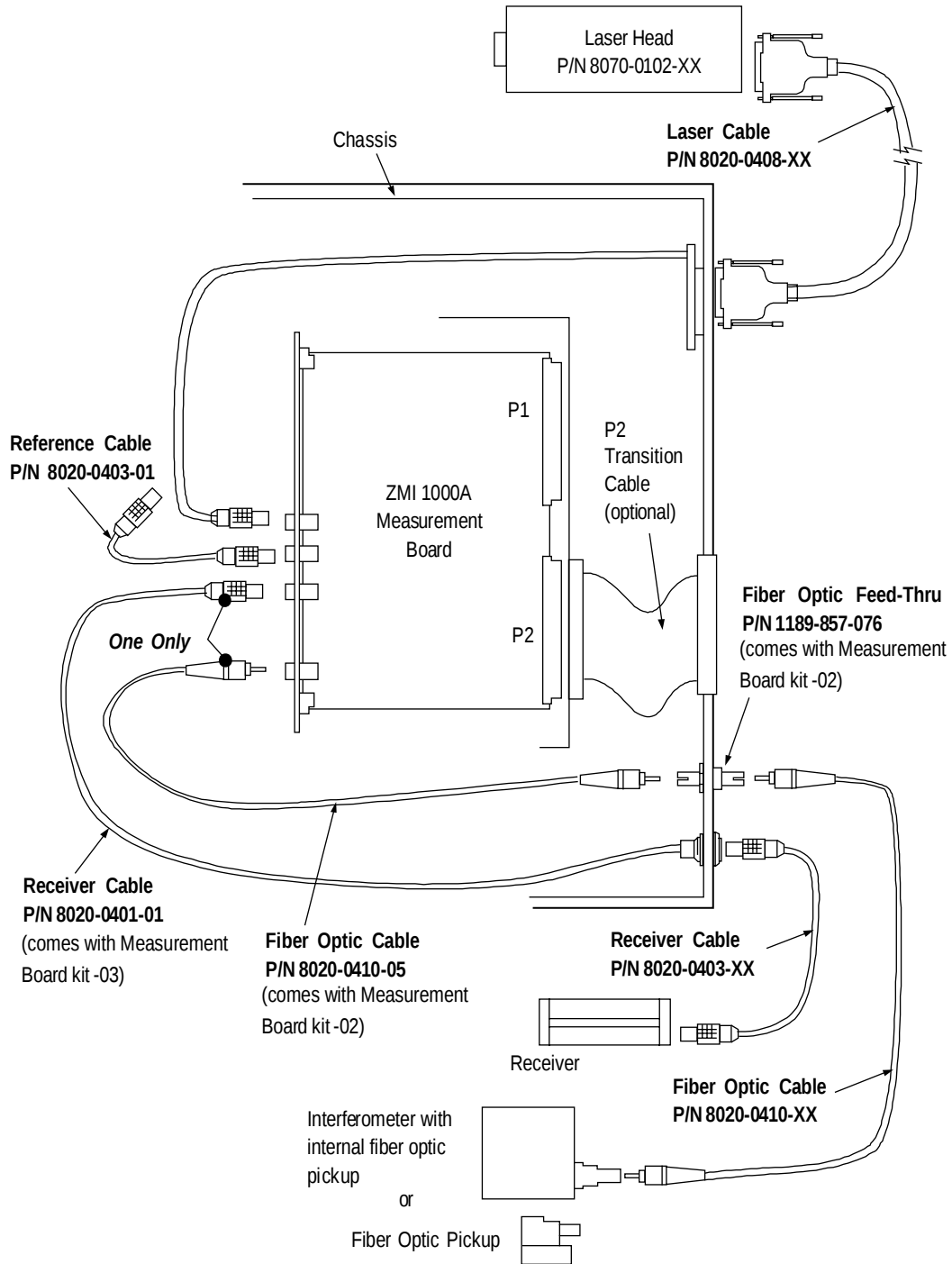
Zygo's ZMI products are structured as "building-blocks". From the optical components to circuit boards, to the cables, products can be selected to suit your particular application.

In this cable guide, you'll find overview drawings to help you select and identify the cables you need. For specific information about a particular cable refer to the detailed specification pages. If you have questions or additional cabling requirements please contact Zygo.

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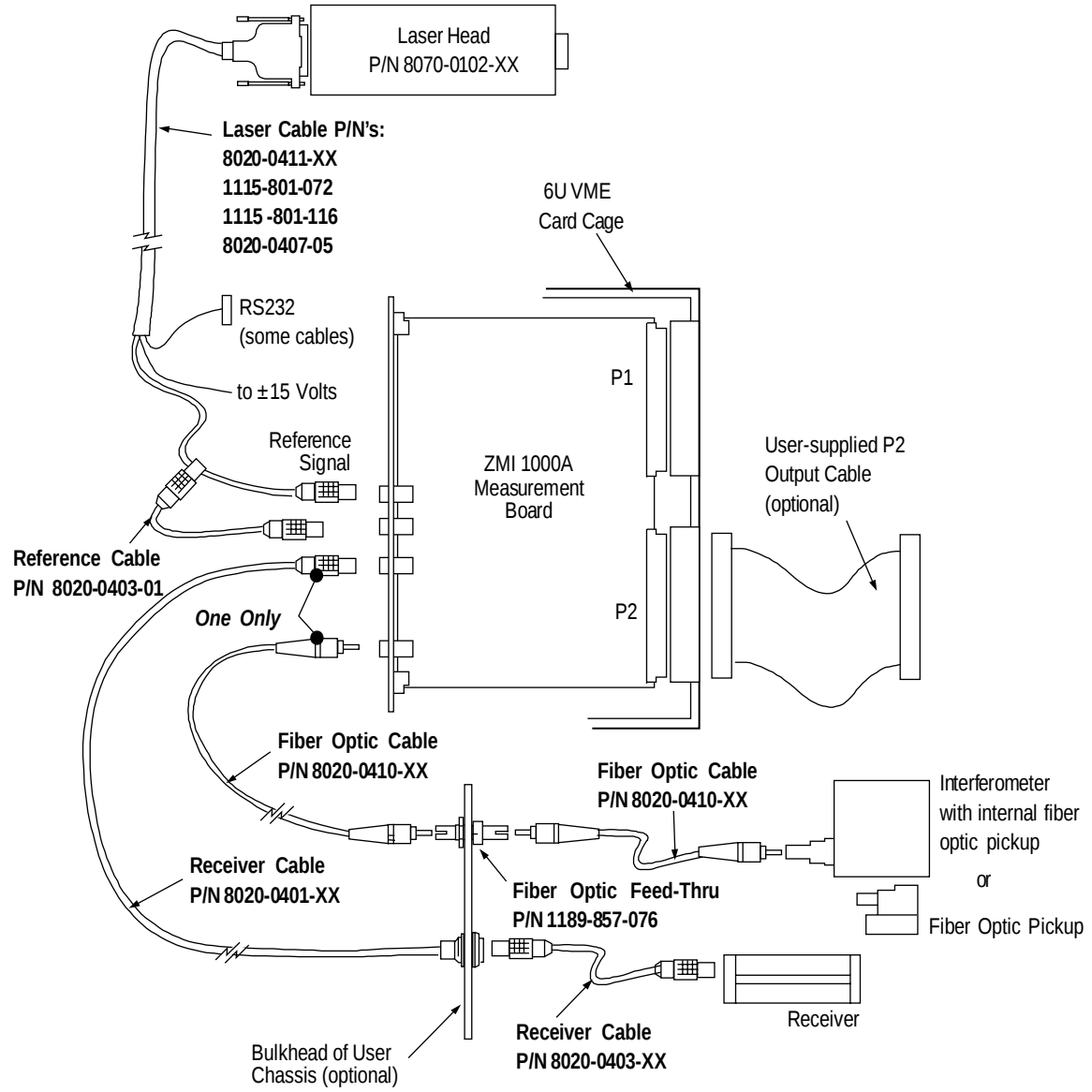
ZMI 1000 Chassis Based System Cables

For use with Zygo Chassis (P/N 8010-0100-02/-03) and ZMI 1000A Measurement Board Kits (P/N 8020-0100-02/-03).



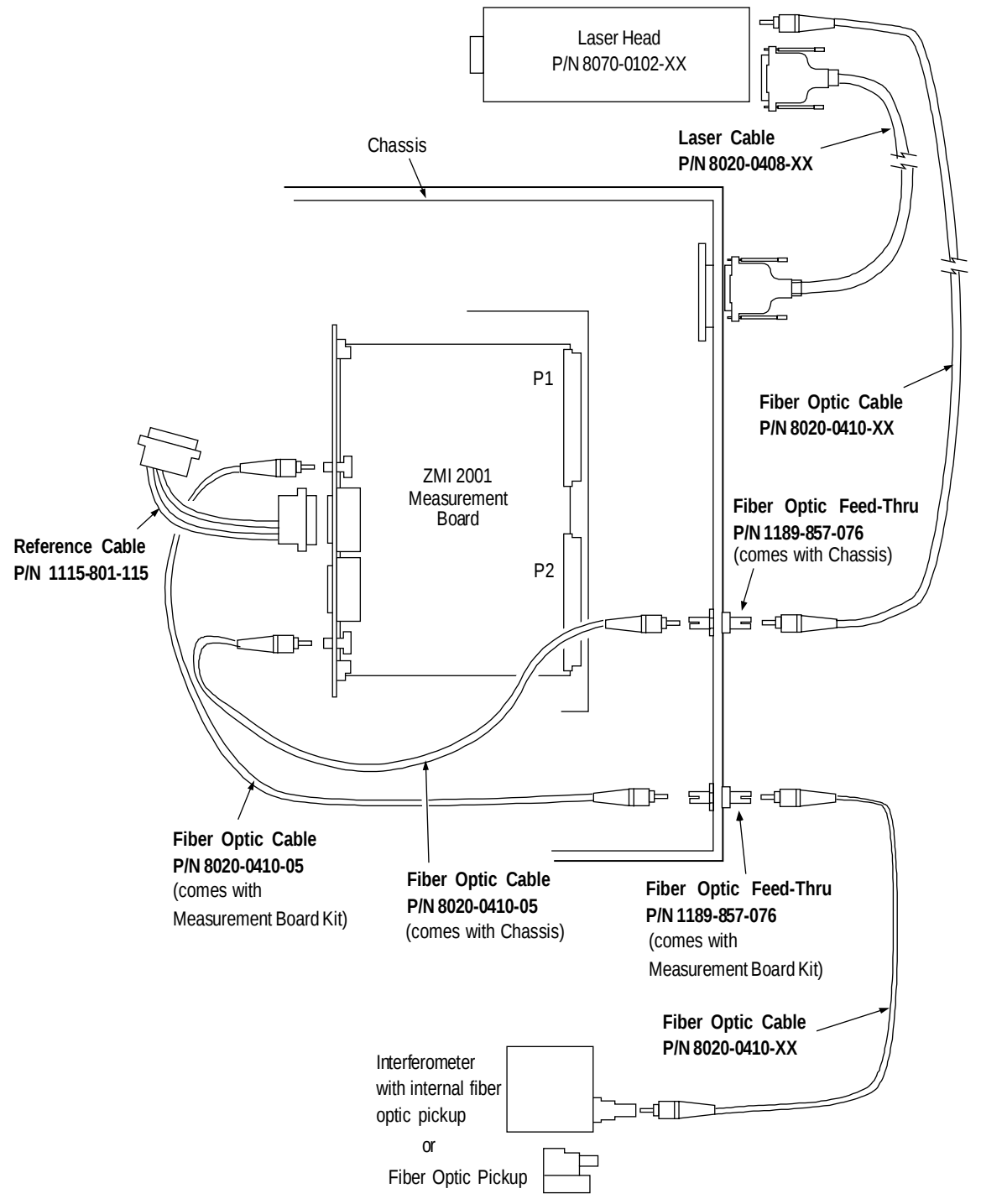
ZMI 1000 VME Backplane Based System Cables

For use with user-supplied VME backplane and ZMI 1000A Measurement Board Kit (P/N 8020-0100-07).



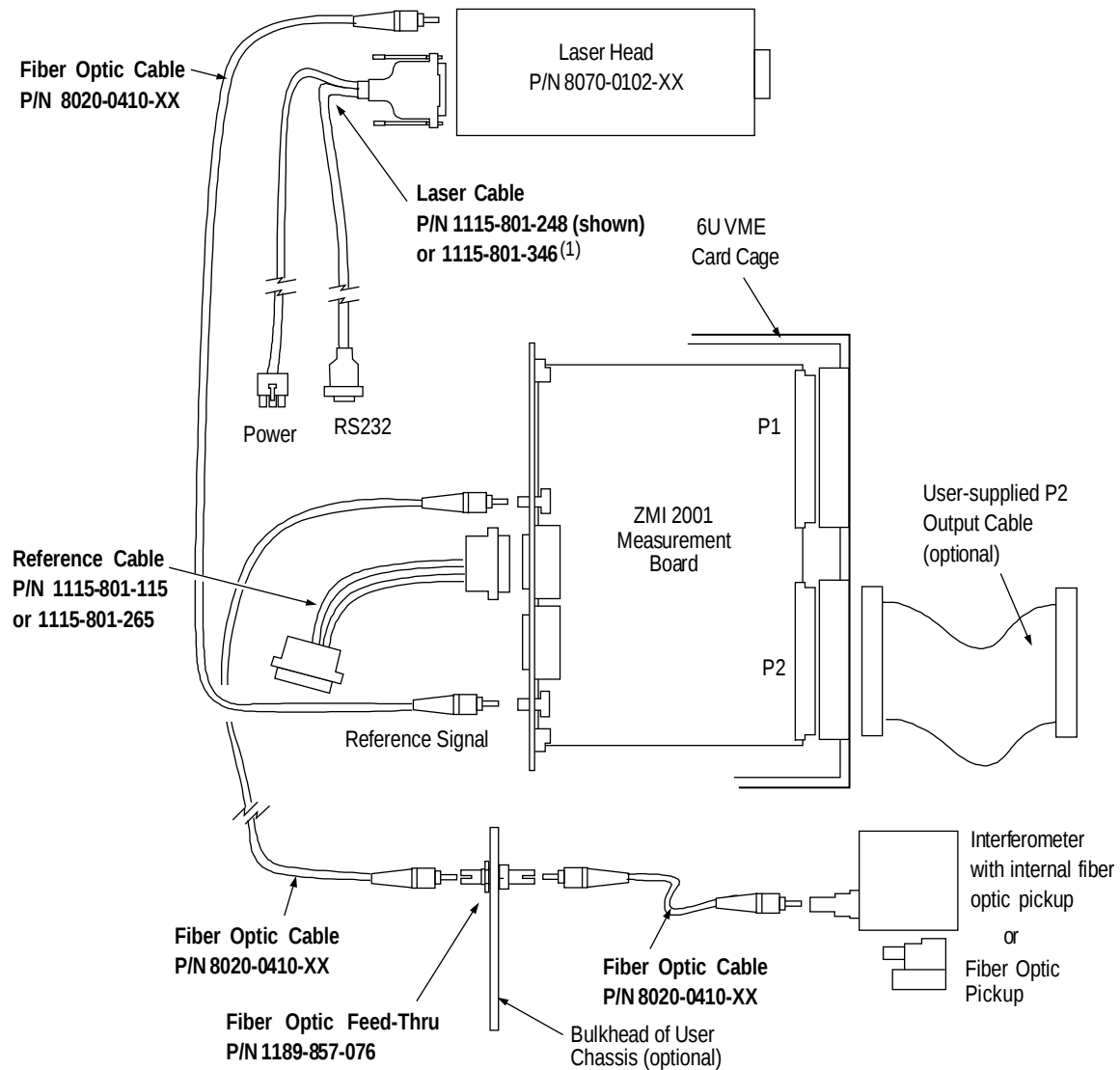
ZMI 2001 Chassis Based System Cables

For use with Zygo Chassis (P/N 8010-0100-04/-05) and ZMI 2001 Measurement Board Kit (P/N 8020-0101-06).



ZMI 2001 VME Backplane Based System Cables

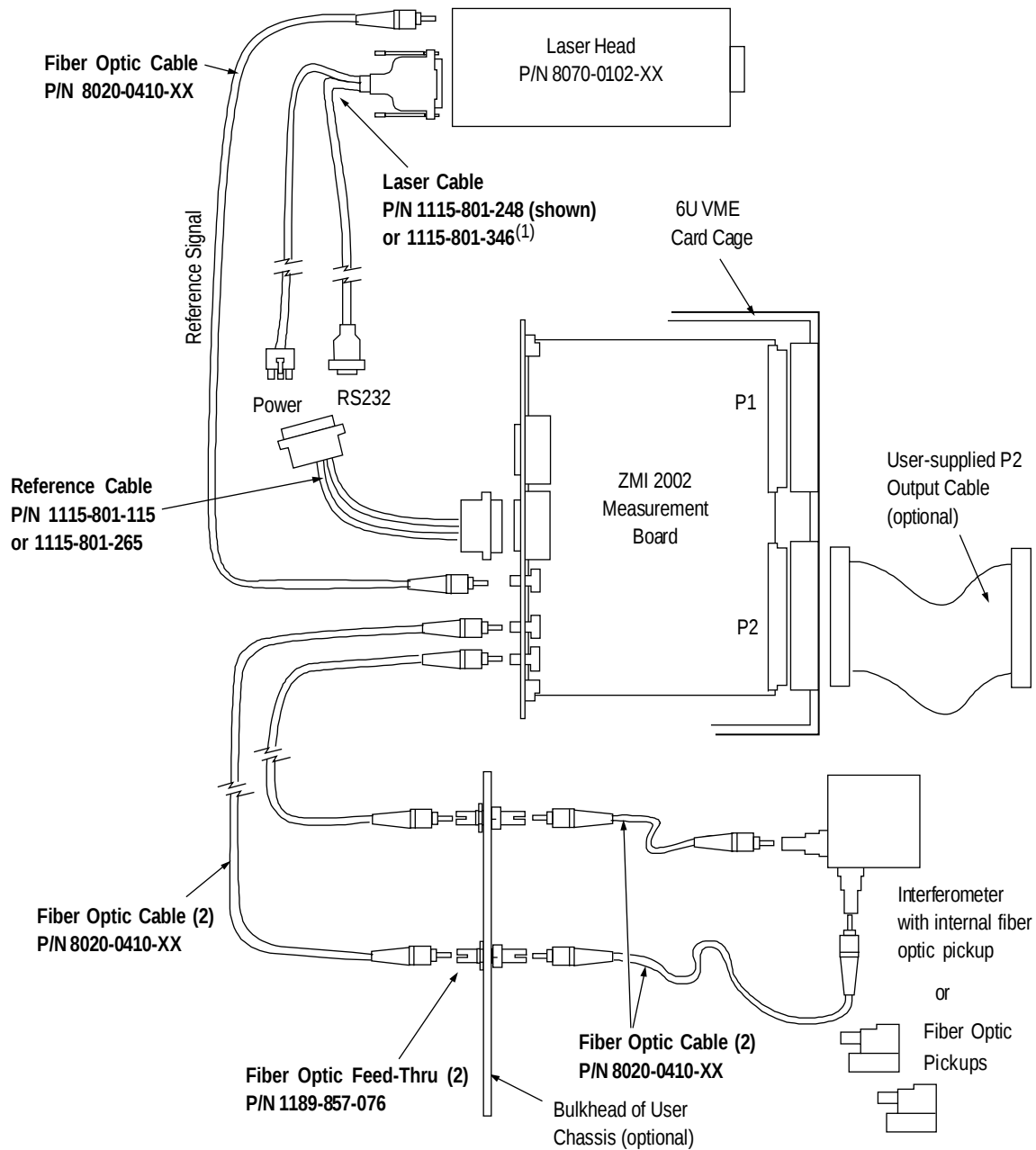
For use with user-supplied VME backplane and ZMI 2001 Measurement Board Kit (P/N 8020-0101-04).



(1) Laser Cable 1115-801-346 connects to the Laser Power Supply (P/N 8010-0104-XX).

ZMI 2002 VME Backplane Based System Cables

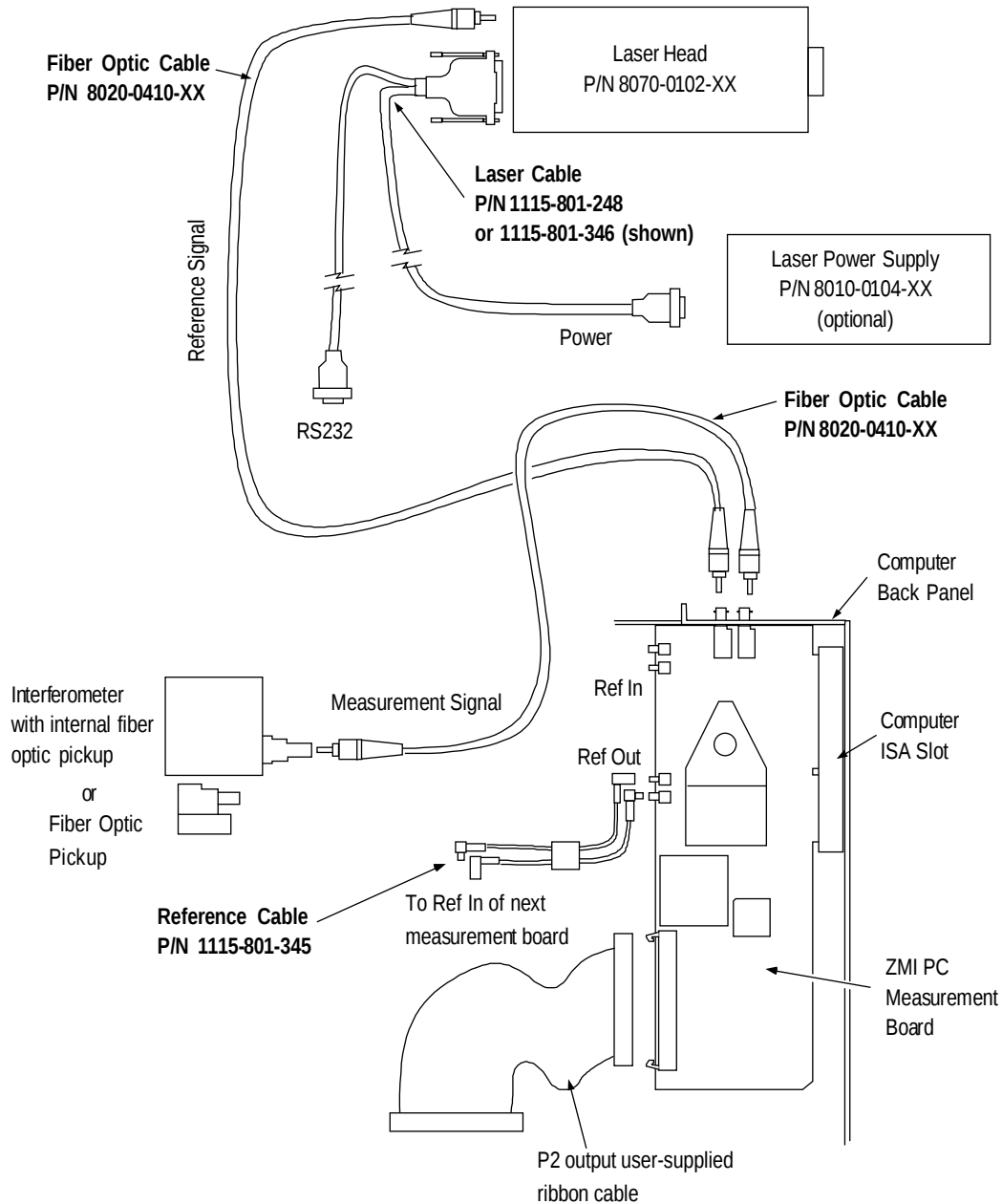
For use with user-supplied VME backplane and ZMI 2002 Measurement Board Kit (P/N 8020-0101-03).



(1) Laser Cable 1115-801-346 connects to the Laser Power Supply (P/N 8010-0104-XX).

ZMI PC ISA Based System Cables

For use with user-supplied computer ISA backplane and ZMI PC Measurement Board Kit (P/N 8020-0101-11).

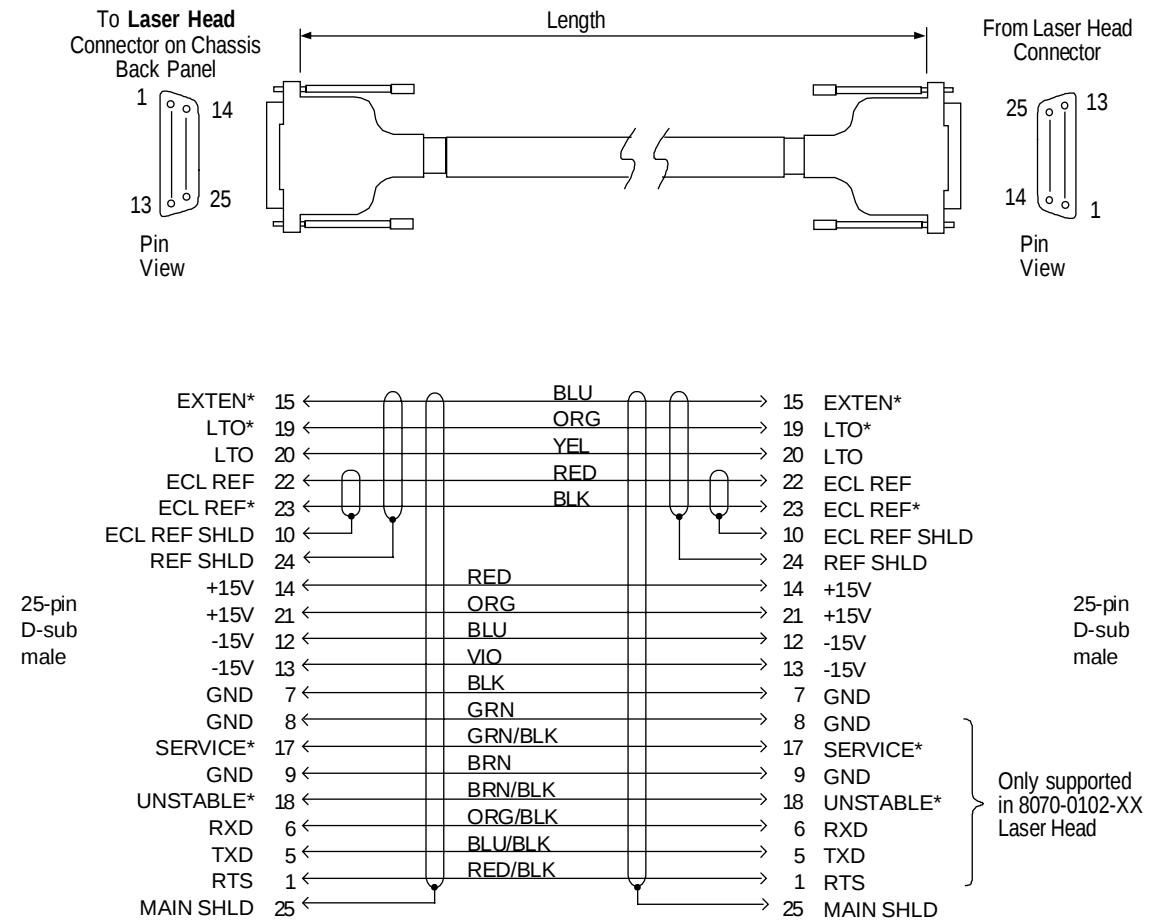


Laser Head Cable P/N 8020-0408-XX

For use with Zygo Laser Heads and the ZMI System Chassis.

XX	Length
01	3 meters
02	5 meters
03	10 meters
04	15 meters
05	0.5 meters

* Length tolerance is $\pm 2\%$.

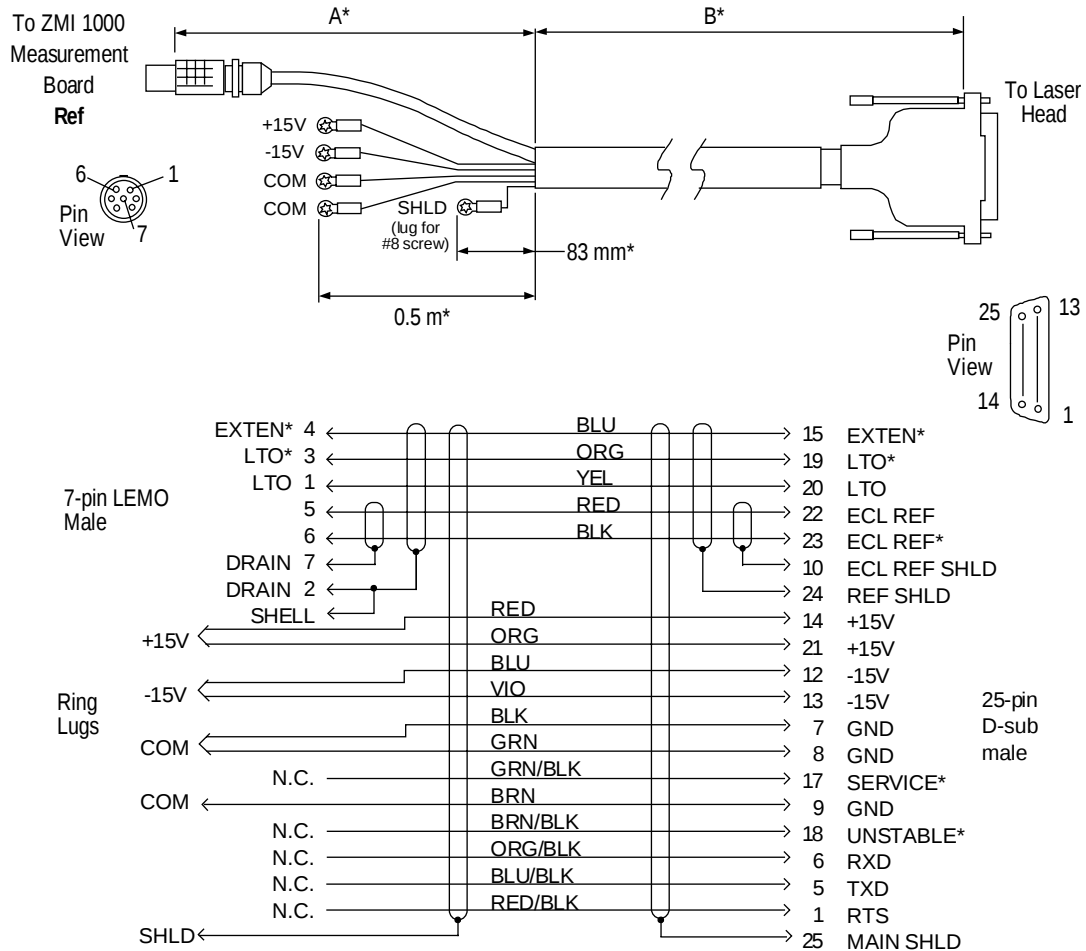


Laser Head Cable P/N 8020-0407-XX

For use with Zygo Laser Heads in a ZMI 1000 based system with a user-supplied backplane.

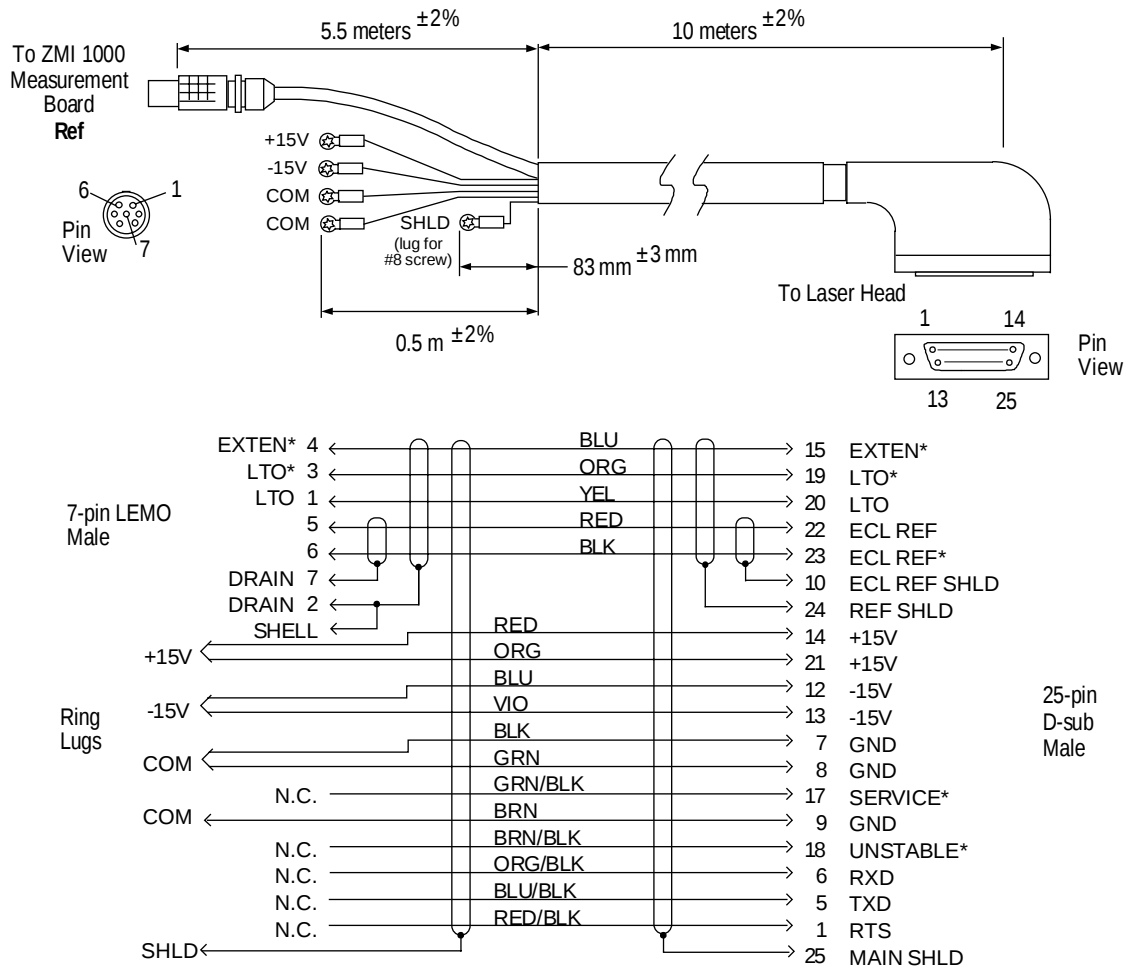
XX	A Length	B Length
01	3.5 meters	4 meters
02	5.5 meters	10 meters
03	5.5 meters	15 meters
04	1.7 meters	4.4 meters

* Length tolerance is $\pm 2\%$.



Laser Head Cable P/N 8020-0407-05

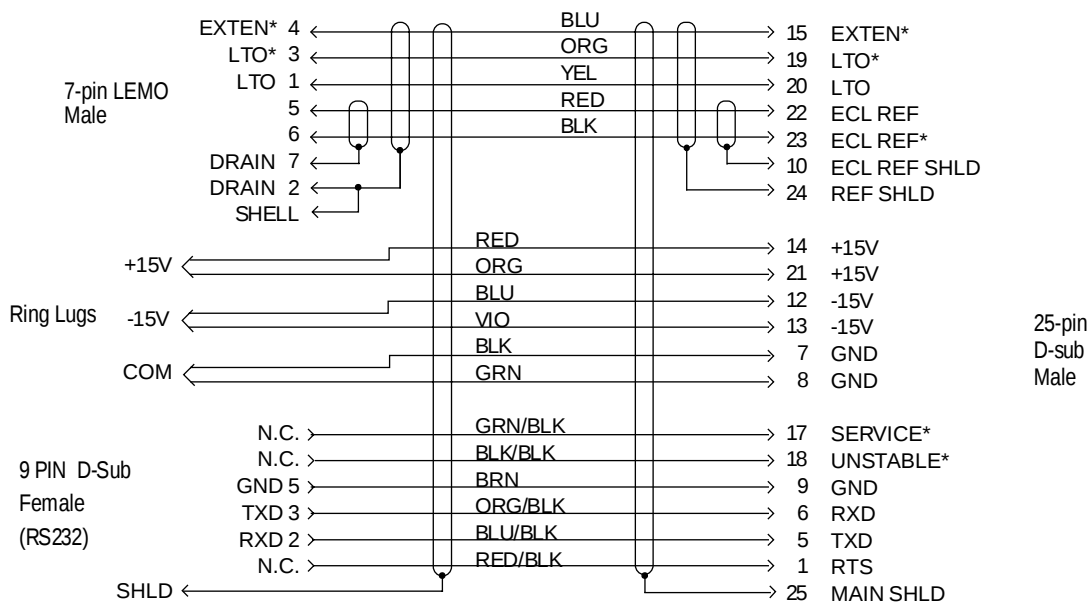
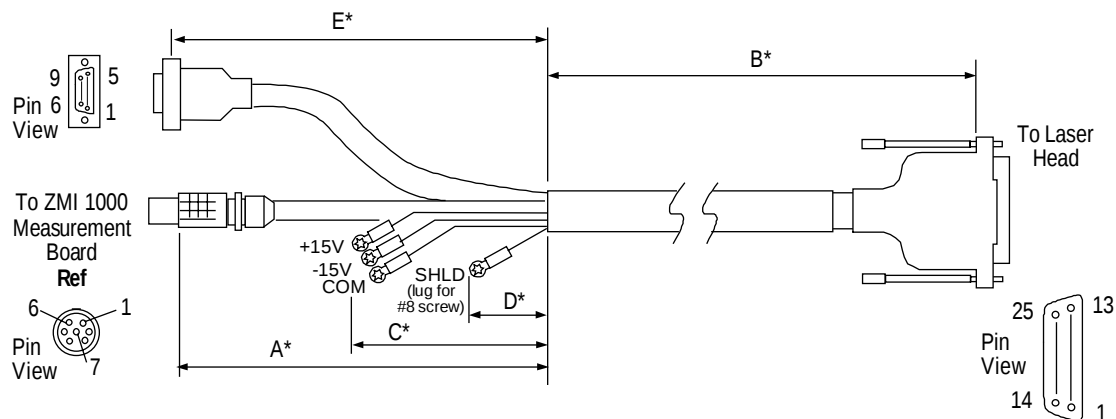
Right-angle cable for use with Zygo Laser Heads in a ZMI 1000 based system with a user-supplied backplane. Note that in addition to the cable, a right angle adapter kit (P/N 8070-0108-01) is required for the Laser Head.



Laser Head Cable P/N 8020-0411-XX

For use with Zygo Laser Heads in a ZMI 1000 based system with a user-supplied backplane. RS232 diagnostics are supported when used with an 8070-0102-XX Laser Head.

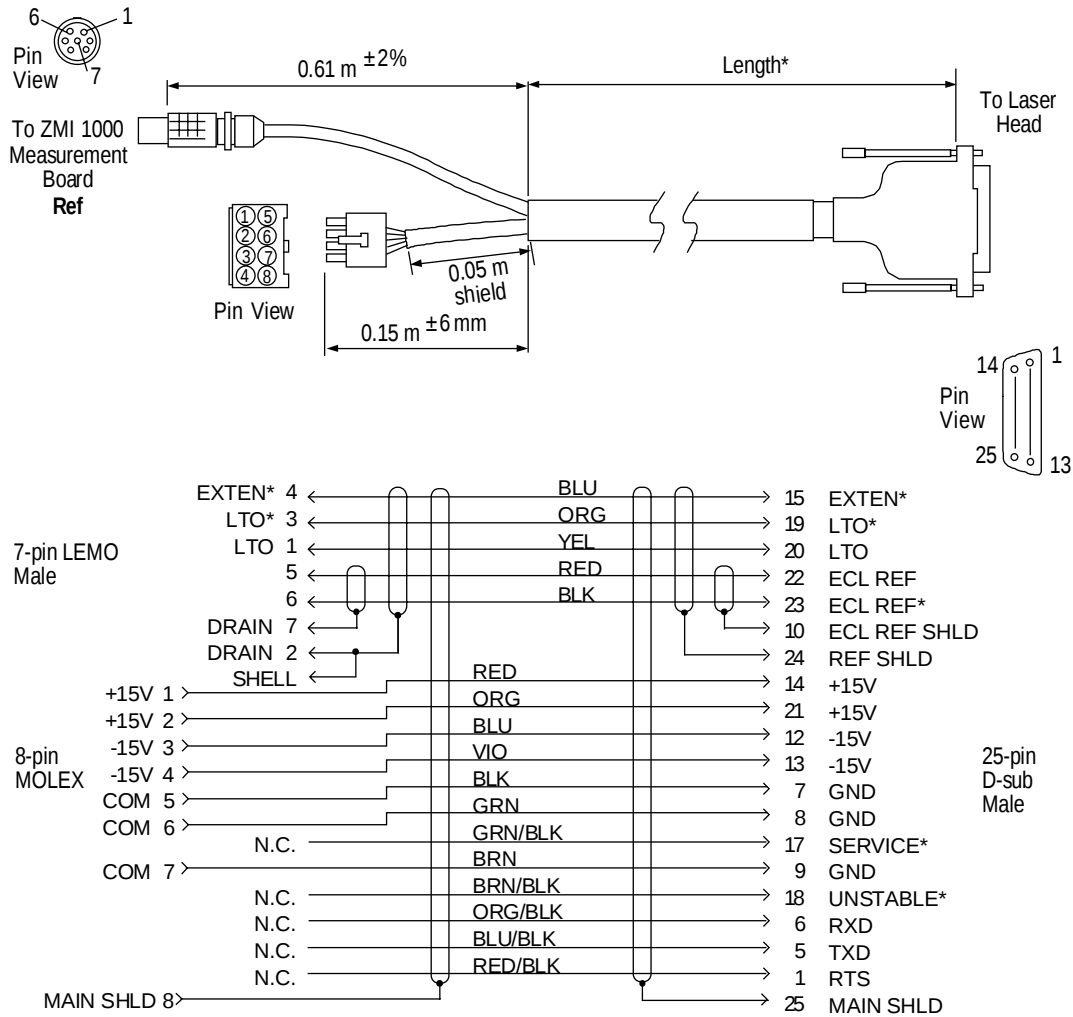
XX	A Length	B Length	C Length	D Length	E Length	* Length tolerance is $\pm 2\%$.
01	1 meter	2 meters	0.5 meter	0.5 meter	152 mm	
02	1 meter	5 meters	0.5 meter	83 mm	102 mm	
03	1 meter	10 meters	0.5 meter	83 mm	102 mm	
04	1 meter	0.5 meters	0.5 meter	83 mm	102 mm	



Laser Head Cable P/N 1115-801-072 and 1115-801-116

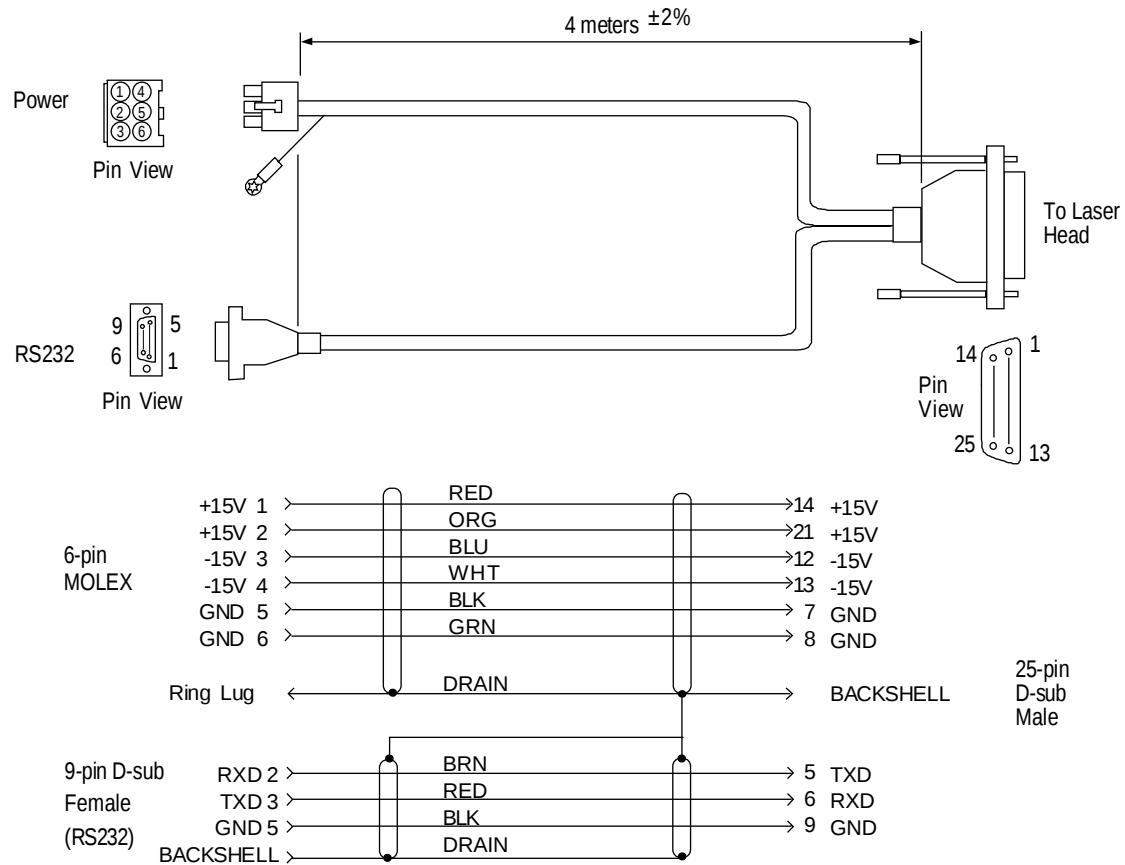
For use with Zygo Laser Heads in a ZMI 1000 based system with a user-supplied backplane.

P/N	Length	* Length tolerance is $\pm 2\%$.
1115-801-072	6 meters	
1115-801-116	10 meters	



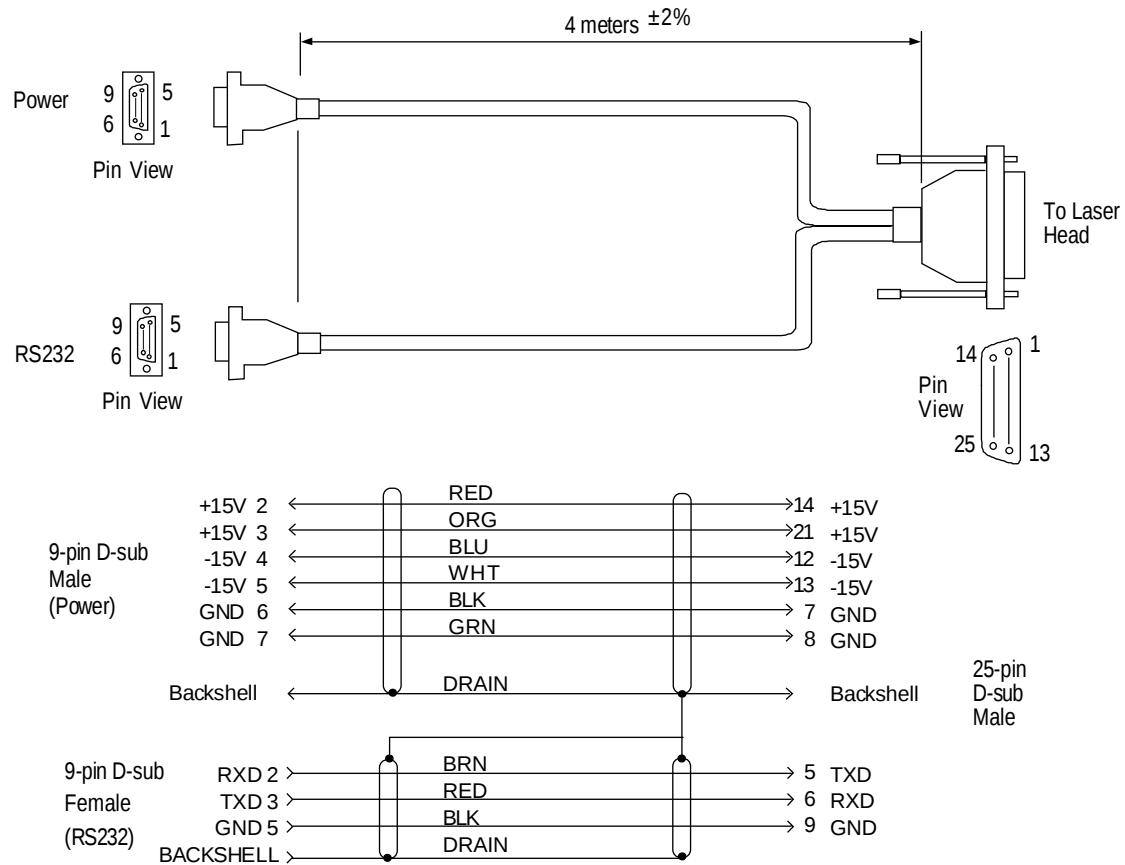
Laser Head Cable P/N 1115-801-248

For use with the Zygo 8070-0102-XX Laser Heads in a ZMI 2000 based system with a user-supplied backplane.



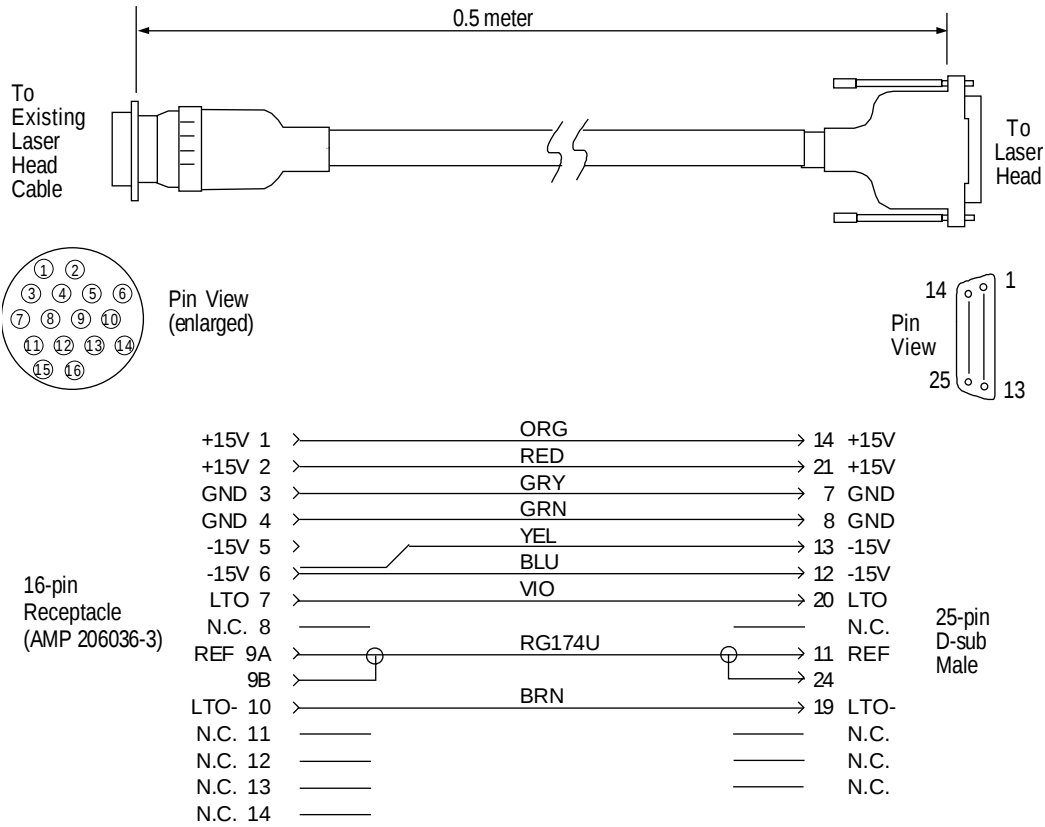
Laser Head Cable P/N 1115-801-346

For use with the Zygo 8070-0102-XX Laser Heads in a user-supplied backplane. The power connector mates to the Zygo Laser Power Supply (P/N 8010-0104-XX).



Laser Head Cable P/N 1115-801-333

For use with the Zygo 6191-0460-03 Laser Head in a Zygo 2/20 based system with a Controller or Coupler. This transition cable interfaces the 6191-0460-03 Laser Head to a Zygo 2/20 laser cable P/N 6191-0233-XX for backwards compatibility.



Fiber Optic Cable P/N 8020-0410-XX

For use with Zygo ZMI 1000 and ZMI 2000 Measurement Boards.

Size: 400 micron core, multi mode,
3.0 millimeter outside cable diameter.

Connectors: Male ST bayonet at both ends.

Cable Mechanical Specifications:

Maximum Tensile Load:

125 lb (500 N) short term

68 lb (300 N) long term

Crush Resistance: 428 lbs/in (750 N/cm)

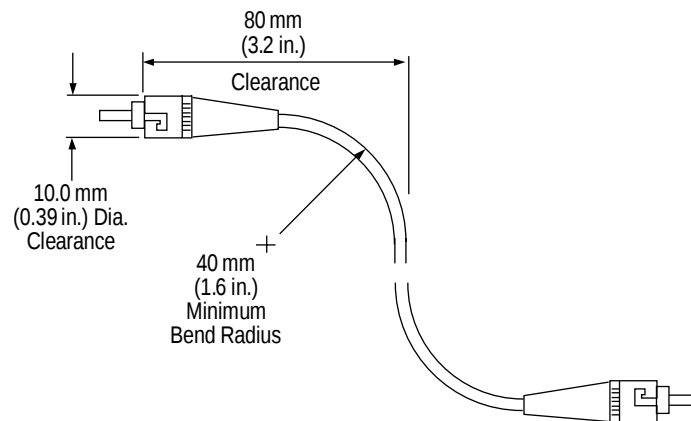
Connector Pull Out Strength: 25 lb (225 N)

Environmental:

Operating Temperature: 0° to 70° C (32° to 158° F)

Non-operating Temperature: -20 to 80° C (-4° to 176° F)

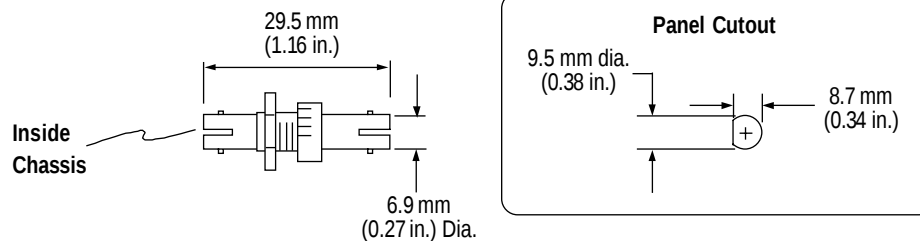
XX	Length	Tolerance
01	1 meters	-0%, +5%
02	3 meters	-0%, +5%
03	5 meters	±0.5%
04	10 meters	±0.5%
05	0.6 meters	-0%, +5%
06	20 meters	±0.5%
07	15 meters	±0.5%



Chassis Fiber Optic Feed-Thru P/N 1189-857-076

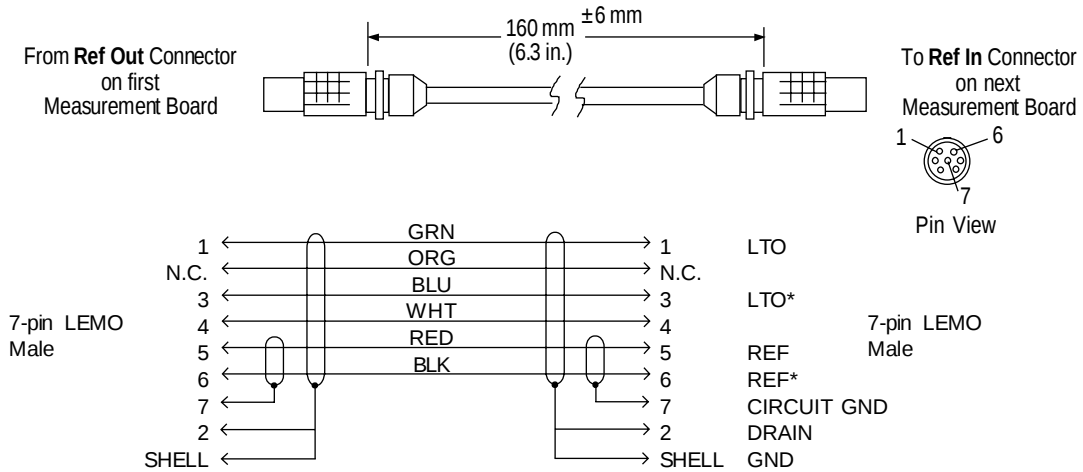
Used to interface two fiber optic cables through a bulkhead panel.

Efficiency: 80-90% typical



Measurement Board Reference Cable P/N 8020-0403-01

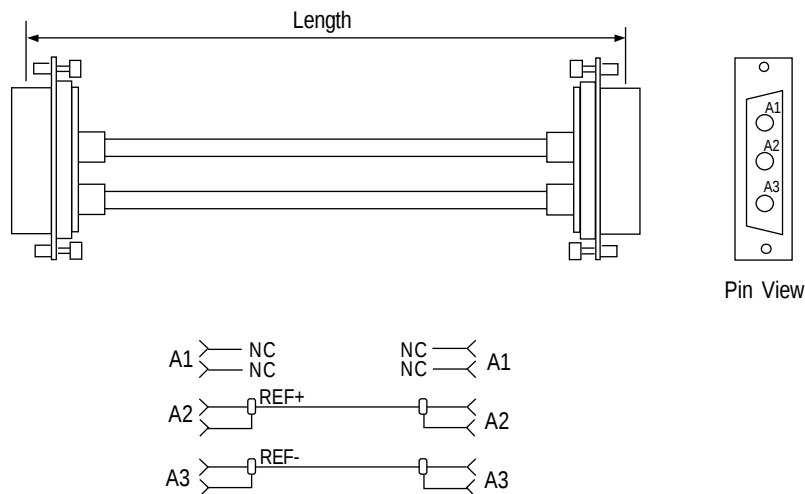
Used to daisy chain the reference signal between ZMI 1000 Measurement Boards.



Measurement Board Reference Cable P/N 1115-801-115 and 1115-801-265

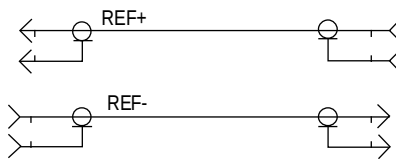
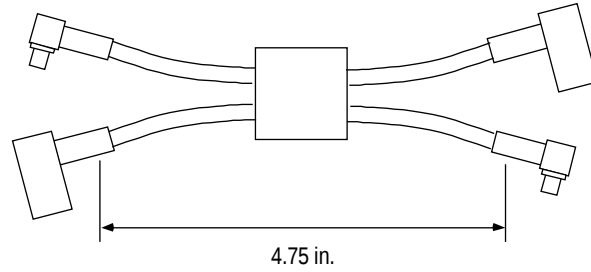
Used to daisy chain the reference signal between ZMI 2000 VME based Measurement Boards.

P/N	Length	Tolerance
1115-801-115	120 mm	± 3 mm
1115-801-265	200 mm	± 3 mm



Measurement Board Reference Cable P/N 1115-801-345

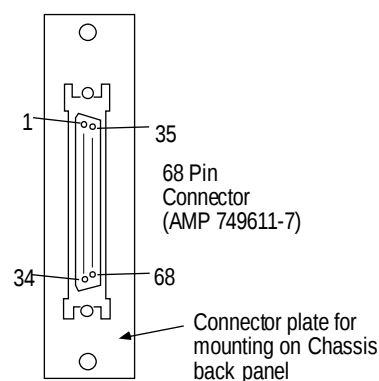
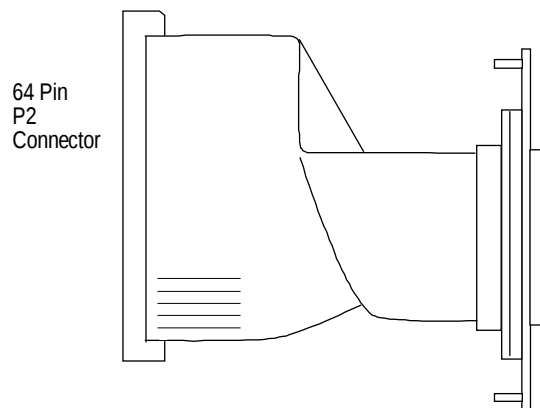
Used to daisy chain the reference signal between ZMI PC Measurement Boards.



P2 Direct Output Cable P/N 8020-0304-01

For use with Zygo Chassis and ZMI 1000 and ZMI 2000 Measurement Boards.

Pin Out for ZMI 1000 Measurement Boards				Pin Out for ZMI 2000 Measurement Boards			
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	35	P9	1	Reserved	35	P2_D26
2	64 MHz Ref	36	P10	2	P2_IDE*	36	P2_D18
3	GND	37	P11	3	GND	37	P2_D27
4	64 MHz Ref*	38	P12	4	GND	38	P2_D19
5	GND	39	GND	5	P2_A8	39	P2_D28
6	Error Out	40	P13	6	P2_A0	40	P2_D20
7	Ref Signal Error	41	P14	7	P2_A9	41	P2_D29
8	Meas Signal Error	42	P15	8	P2_A1	42	P2_D21
9	Overflow Error	43	P16	9	P2_A10	43	P2_D30
10	Window*	44	P17	10	P2_A2	44	P2_D22
11	GND	45	P18	11	P2_A11	45	P2_D31
12	Output H to L Enable*	46	P19	12	P2_A3	46	P2_D23
13	Ext Sample*	47	P20	13	P2_R/W*	47	P2_D8
14	Position Reset*	48	GND	14	P2_A4	48	P2_D0
15	Position Hold*	49	P21	15	P2_RESET*	49	P2_D9
16	Output Enable*	50	P22	16	P2_A5	50	P2_D1
17	GND	51	P23	17	GND	51	P2_D10
18	Output/Transfer Clock	52	P24	18	P2_A6	52	P2_D2
19	GND	53	P25	19	Reserved	53	P2_D11
20	Output/Transfer Clock*	54	P26	20	P2_A7	54	P2_D3
21	Time Reset Out*	55	P27	21	GND	55	P2_D12
22	Velocity Error	56	P28	22	GND	56	P2_D4
23	P0	57	GND	23	P2_INT1*	57	P2_D13
24	P1	58	P29	24	P2_INT0*	58	P2_D5
25	P2	59	P30	25	P2_INT3*	59	P2_D14
26	P3	60	P31	26	P2_INT2*	60	P2_D6
27	P4	61	Select Address 2	27	GND	61	P2_D15
28	GND	62	Time Reset*	28	GND	62	P2_D7
29	P5	63	Select Address 1	29	P2_D24	63	GND
30	P6	64	Sample*	30	P2_D16	64	GND
31	P7	65	Select Address 0	31	P2_D25	65	P2_SCLK1
32	P8	66	GND	32	P2_D17	66	P2_SCLK0
33	no connection	67	no connection	33	no connection	67	no connection
34	no connection	68	no connection	34	no connection	68	no connection



External Sample and Reset Cable P/N 1115-801-071 and 1115-801-310

Used to synchronize the reset and clock signals on the P2 connector for ZMI Measurement Boards.

P/N 1115-801-071

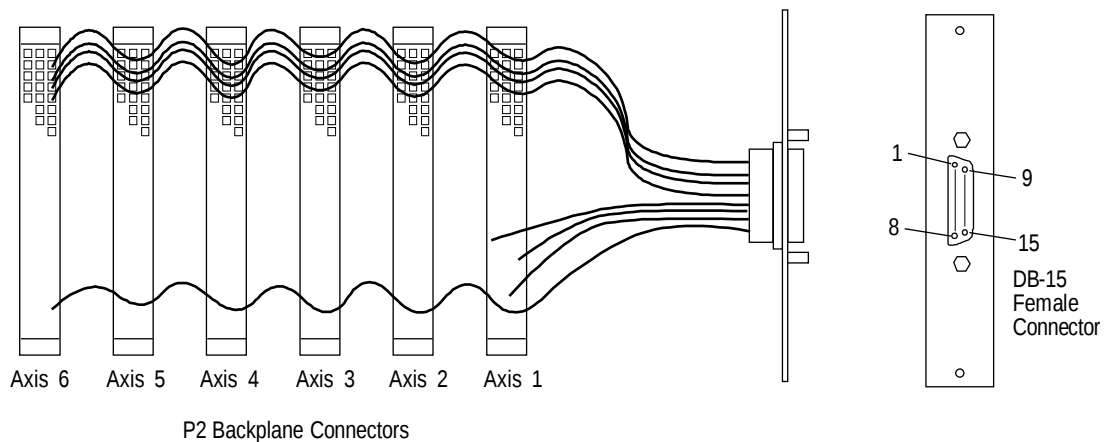
Pin Out for ZMI 1000 Measurement Boards

Pin	Signal
1	Error Out 5
2	Error Out 4
3	Error Out 3
4	Error Out 2
5	Error Out 1
6	Ext Sample*
7	Time Reset*
8	Position Reset*
9	Error Out 6
10	Output Enable*
11	GND
12	GND
13	GND
14	GND
15	GND

P/N 1115-801-310

Pin Out for ZMI 2000 Measurement Boards

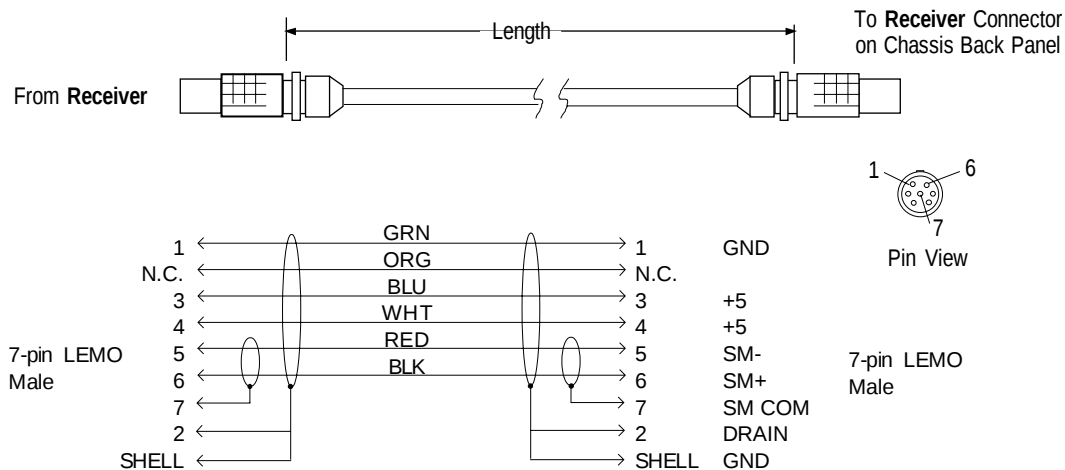
Pin	Signal
1	P2_INT5*
2	P2_INT4*
3	P2_INT3*
4	P2_INT2*
5	P2_INT1*
6	P2_SCLK0
7	P2_Reset*
8	P2_SCLK1
9	P2_INT6*
10	GND
11	GND
12	GND
13	GND
14	GND
15	GND



Receiver Cable P/N 8020-0403-XX

For use with Zygo 6191-0420-01 Receiver and ZMI 1000 Measurement Board. Note that P/N 8020-0403-01 cable is covered under “Measurement Board Reference Cable”.

XX	Length	Tolerance
02	3 meters	±2%
03	6 meters	±2%
04	10 meters	±2%



Receiver Cable P/N 8020-0401-XX

Internal cable for use inside the Zygo Chassis; connects to ZMI 1000 Measurement Board and Receiver Cable P/N 8020-0403-XX.

XX	Length	Tolerance
01	28 in.	±2%
02	46 in.	±2%

