

4

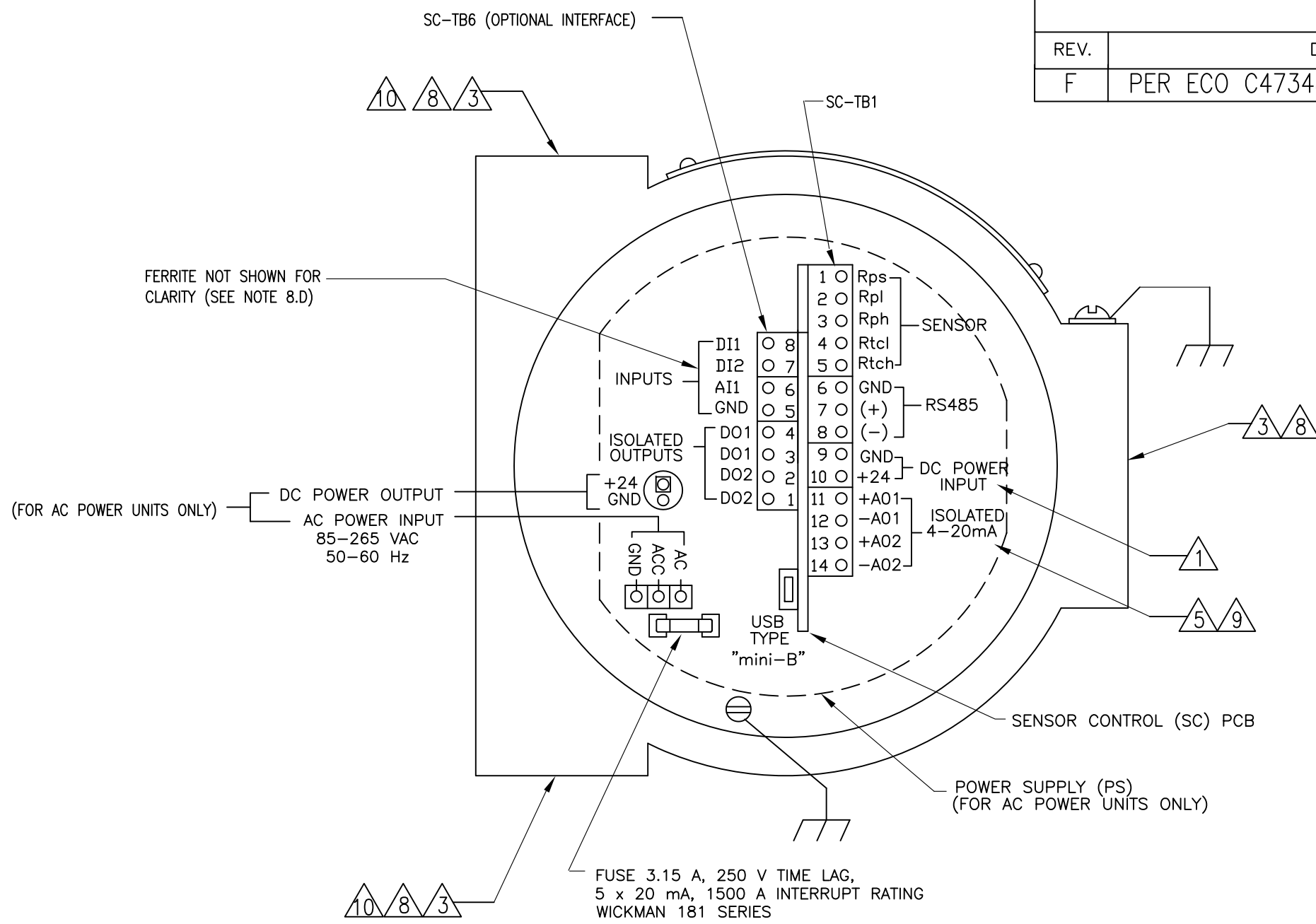
3

2

1

KURZ INSTRUMENTS, INC. PROPRIETARY RIGHTS ARE INCLUDED IN THE INFORMATION DISCLOSED HEREIN. NEITHER THIS DOCUMENT NOR INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR FOR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY KURZ INSTRUMENTS, INC.

REVISIONS					
REV.	DESCRIPTION	BY	CHKD	APRVD	DATE
F	PER ECO C47348	RM	GF	BBB	12/03/08



COMPONENT DIAGRAM

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	TOLERANCES ARE	
	FRACTIONS	± 1/16
	ANGLES	± 1°-0'
	DECIMALS	
	.X	± 0.1
.XX	± 0.03	
.XXX	± 0.003	
ORIG. RELEASE DATE		
NEXT ASSEMBLY		

APPROVALS	
DRAWN BY R. MARTINEZ	DATE 11.18.08
CHECKED BY G. FOSTER	DATE 11/18/08
APPROVED B. BURTON	DATE 12/03/08

KURZ INSTRUMENTS, INC.

FIELD WIRING DIAGRAM
MFT-B SERIES (ATEX)

DWG. SIZE B	DWG. NO. 342038	REV. F
SCALE 1" = 1"	SHEET 1 OF 5	

FOR NOTES SEE SHEETS 4 & 5

4

3

2

1

D

D

C

C

B

B

A

A

4

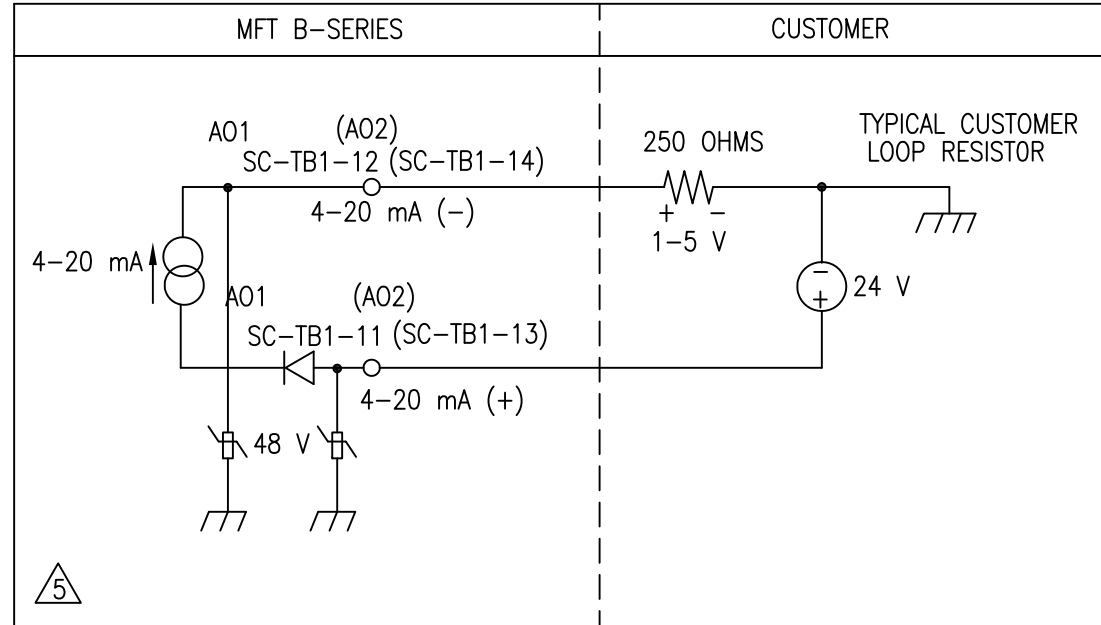
3

2

1

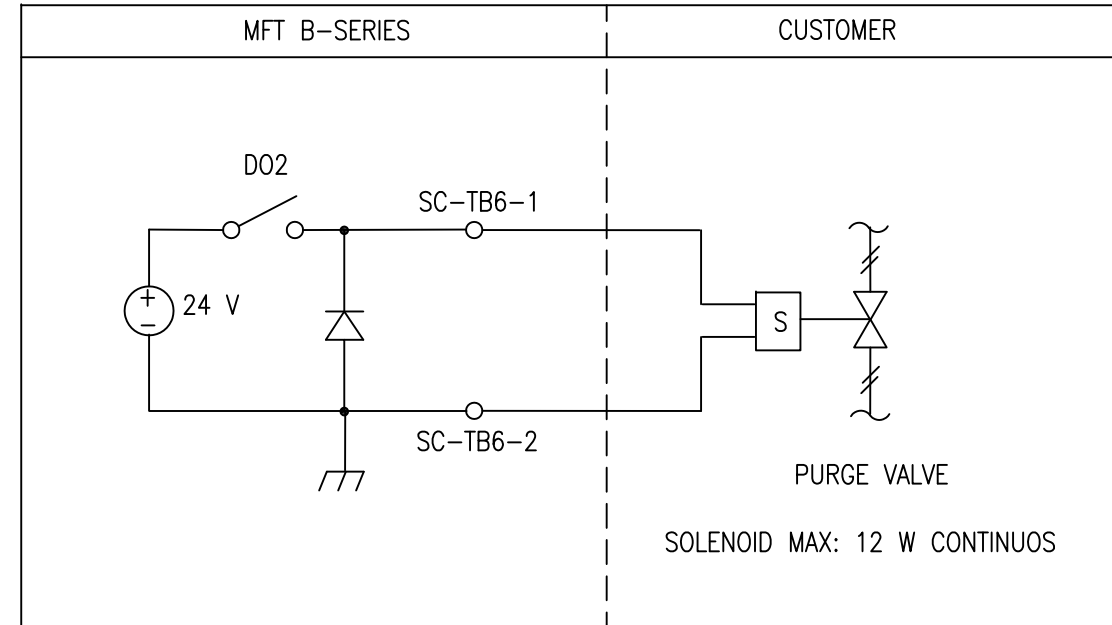
KURZ INSTRUMENTS, INC. PROPRIETARY RIGHTS ARE INCLUDED IN THE INFORMATION DISCLOSED HEREIN. NEITHER THIS DOCUMENT NOR INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR FOR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY KURZ INSTRUMENTS, INC.

EXAMPLE LOOP POWERED 4-20 mA CONNECTIONS

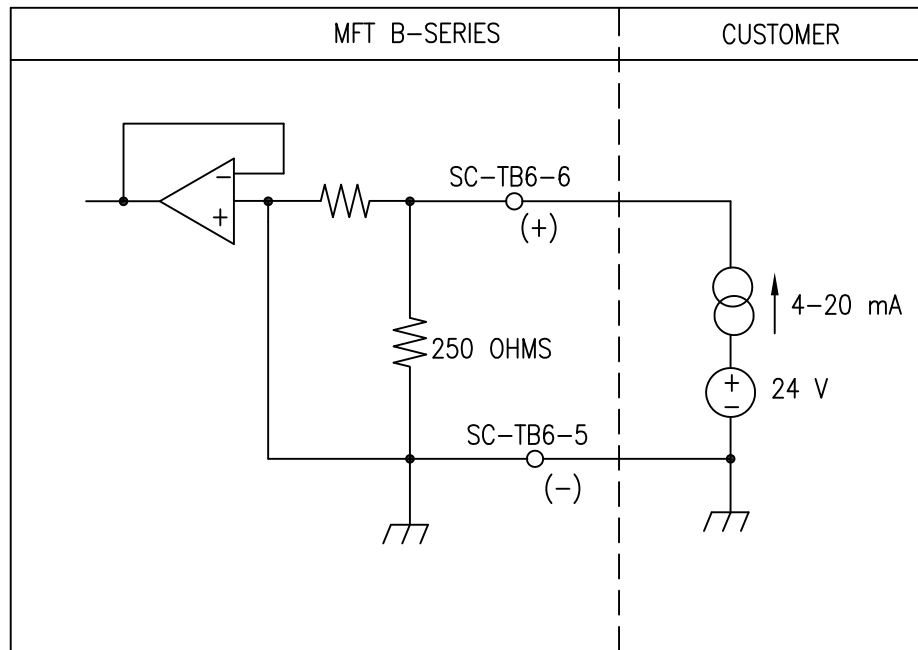


5

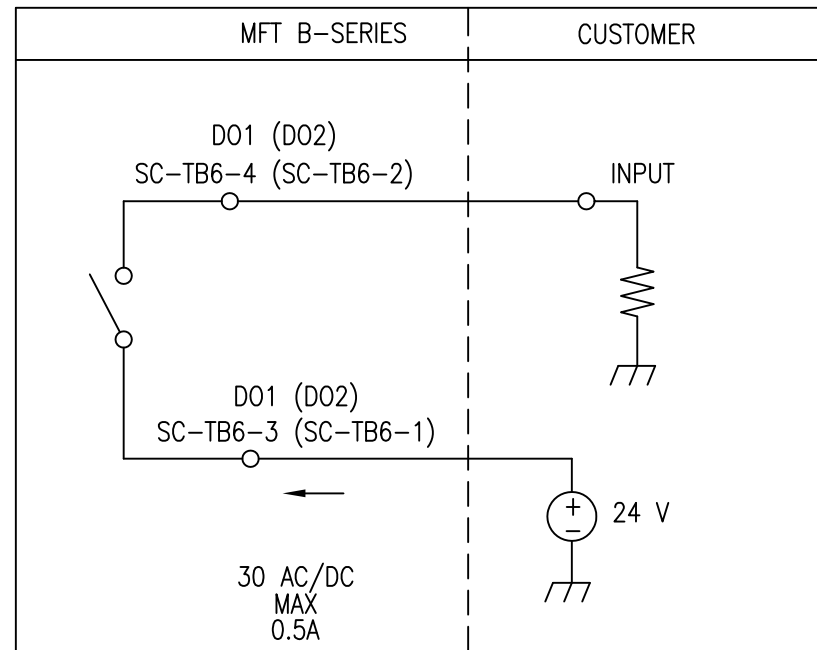
EXAMPLE PURGE VALVE CONNECTIONS



EXAMPLE EXTERNAL 4-20 mA INPUT



EXAMPLE DIGITAL OUTPUT OR ALARM CONNECTIONS



KURZ INSTRUMENTS, INC.			
FIELD WIRING DIAGRAM MFT B-SERIES (ATEX)			
DWG. SIZE	DWG. NO.	REV.	
B	342038	F	
	SCALE	NONE	SHEET 2 OF 5

4

3

2

1

B

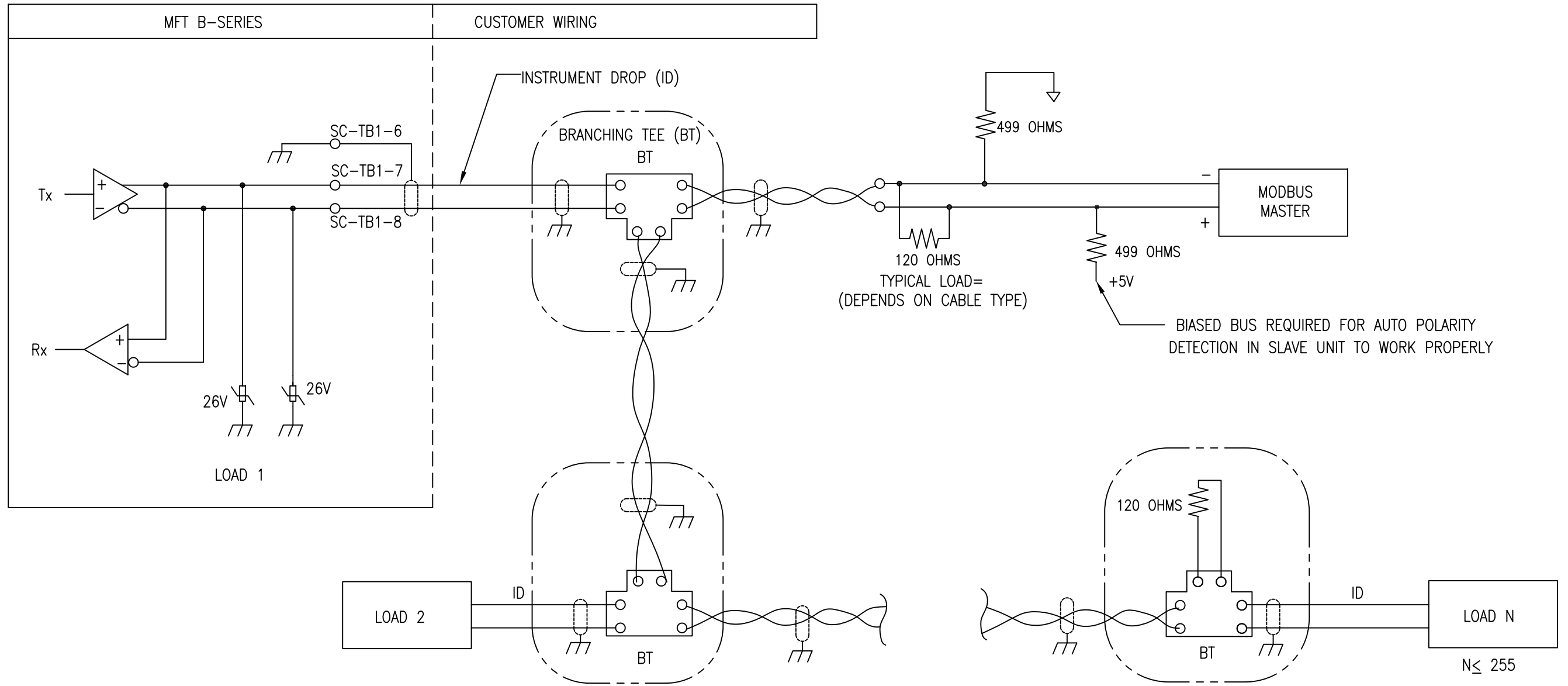
A

B

A

MODBUS MULTIPOINT SERIAL CONNECTIONS

KURZ INSTRUMENTS, INC. PROPRIETARY RIGHTS ARE INCLUDED IN THE INFORMATION DISCLOSED HEREIN. NEITHER THIS DOCUMENT NOR INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR FOR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY KURZ INSTRUMENTS, INC.



TYPICAL LONG DISTANCE HALF DUPLEX CONNECTION RS-485 MULTI DROP OR MULTIPOINT SERIAL CONNECTIONS

KURZ INSTRUMENTS, INC.		
FIELD WIRING DIAGRAM MFT B-SERIES (ATEX)		
DWG. SIZE B	DWG. NO. 342038	REV. F
	SCALE NONE	SHEET 3 OF 5

4

3

2

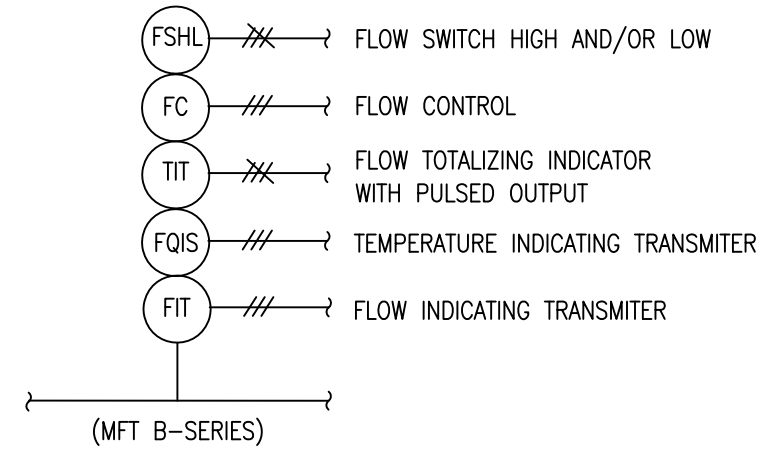
1

NOTES: UNLESS OTHERWISE SPECIFIED, (NOTES CON'T. ON SHEET 5)

- 1. 24 VDC, 21 W (MINIMUM 18 V)
24 VDC POWER WIRING
2 OHMS MAXIMUM PER WIRE, ~3 V DROP

AWG	MAX. LENGTH (FT)
18	314
16	500
14	800
12	1260

- 2. SEE USERS MANUAL 360209 FOR ADDITIONAL INFO.
- 3. 3/4" CONDUIT GLAND OR POTTING Y (i.e. KILLARK ENY-2) MUST BE DIRECTLY ATTACHED TO THE ENCLOSURE TO MAINTAIN Ex d RATING.
- 4. TO ENSURE SAFETY FROM ELECTRIC SHOCK AND MINIMIZE THE CHANCE OF AN ELECTRIC SPARK CAUSING IGNITION, THE UNIT MUST HAVE A GROUND WIRE CONNECTED TO EARTH "THE INSIDE GROUND STUD AND/OR OUTSIDE GROUND STUD".
- 5. COMPLIANCE, 11 VOLT TO 40 VOLT
- 6. FOR TRANSMITTER SEPARATE SEE DWG. #342039



PI&D SYMBOLS

KURZ INSTRUMENTS, INC. PROPRIETARY RIGHTS ARE INCLUDED IN THE INFORMATION DISCLOSED HEREIN. NEITHER THIS DOCUMENT NOR INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR FOR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY KURZ INSTRUMENTS, INC.

KURZ INSTRUMENTS, INC.

FIELD WIRING DIAGRAM
MFT B-SERIES (ATEX)

DWG. SIZE B	DWG. NO. 342038	REV. F
	SCALE NONE	SHEET 4 OF 5

4

3

2

1

D

C

B

A

D

C

B

A

KURZ INSTRUMENTS, INC. PROPRIETARY RIGHTS ARE INCLUDED IN THE INFORMATION DISCLOSED HEREIN. NEITHER THIS DOCUMENT NOR INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSMITTED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR FOR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY KURZ INSTRUMENTS, INC.

7. SC BOARD I/O TERMINAL DESCRIPTION (SEE BELOW):

SC BOARD TB1

TERMINAL #	NAME	DESCRIPTION
TB1-1	Rps	VELOCITY SENSOR LEAD WIRE SENSE VOLTAGE
TB1-2	Rpl	VELOCITY SENSOR CURRENT RETURN LEAD
TB1-3	Rph	VELOCITY SENSOR HIGH SIDE DRIVE OUTPUT
TB1-4	Rtcl	REFERENCE TEMPERATURE SENSOR LOW SIDE RETURN
TB1-5	Rtch	REFERENCE TEMPERATURE SENSOR LOW SIDE DRIVE
TB1-6	GND	CHASSIS GROUND. USE FOR RS-485 SHIELD
TB1-7	RS485+	RS-485 - LEAD
TB1-8	RS485-	RS-485 + LEAD
TB1-9	GND	CHASSIS GROUND, USED FOR 24V POWER GROUND
TB1-10	+24 VDC	+24 V POWER INPUT (18 TO 30 VDC, 21W)
TB1-11	AO1+	ANALOG OUTPUT 1 + 4-20 mA CURRENT NE43 COMPLAINT ISOLATED OUTPUT, HART PORT
TB1-12	AO1-	ANALOG OUTPUT 1 - OUTPUT POWER CONNECTION. USUALLY 24VDC FROM THE CUSTOMER. ISOLATED OUTPUT, HART PORT
TB1-13	AO2+	ANALOG OUTPUT 2 + INPUT POWER CONNECTION. USUALLY 24VDC FROM THE CUSTOMER. ISOLATED OUTPUT, NOT PRESENT ON HART OPTION
TB1-14	AO2-	ANALOG OUTPUT 2 - 4-20mA CURRENT NE43 COMPLAINT ISOLATED OUTPUT, NOT PRESENT ON HART OPTION

SC BOARD TB6

TB6-1	DO2	DIGITAL OUTPUT 2, SSR TERMINAL A. ISOLATED SSR. ALSO USED AS A SWITCHED +24VDC OUT FOR A SOLENOID DRIVE IN THE PURGE OPTION
TB6-2	DO2	DIGITAL OUTPUT 2, SSR TERMINAL B. ISOLATED SSR. ALSO USED AT A CHASSIS GROUND FOR A SOLENOID DRIVE IN THE PURGE OPTION
TB6-3	DO1	DIGITAL OUTPUT 1, SSR TERMINAL A. ISOLATED SSR
TB6-4	DO1	DIGITAL OUTPUT 1, SSR TERMINAL B. ISOLATED SSR
TB6-5	GND	CHASSIS GND. COMMON CONNECTION FOR AI1, DI1 OR DI2
TB6-6	AI1	ANALOG INPUT 1. 0 TO 20 mA INPUT, NON-ISOLATED
TB6-7	DI2	DIGITAL INPUT 2, SHORT TO GND TO ACTIVATE THE ZERO/SPAN CALIBRATION SEQUENCE
TB6-8	DI1	DIGITAL INPUT 1, SHORT TO GND TO ACTIVATE THE PURGE TIMER SEQUENCE

SC BOARD USB

USB	TYPE B	USB 1.0 HID TYPE INTERFACE TO A COM EMULATION DRIVER USED IN WINDOWS "PC KURZ USB DRIVER" # 451035
-----	--------	---

SC BOARD J4

J4	LCD	INTERFACE FOR KURZ LCD/KEYBOARD, FIRMWARE 4.1 OR HIGHER
----	-----	---

8. SHIELDED CABLE OR CONDUIT SYSTEMS ON ALL WIRES.

EXAMPLES:

BRAIDED CABLE WITH MULTI-CONDUCTORS
 RIGID CONDUIT (PIPE) WITH WIRES PULLED INSIDE
 EMT WITH COMPRESSION END TERMINATIONS WITH WIRES PULLED INSIDE
 CORRUGATED SOLID FLEX LIKE USED ON GAS APPLIANCES CONNECTIONS WITH WIRES PULLED INSIDE

SPECIAL REQUIREMENTS: NONE

UNSHIELDED CABLE OR CONDUIT SYSTEMS ON ALL WIRES.

EXAMPLES:

MULTI-CONDUCTOR CABLE(S) OR DISCREET WIRES
 FLEX CONDUIT WITH SPIRAL WRAPPED METAL
 CABLE WITH SPIRAL WRAPPED METAL
 CABLE WITH SPIRAL WRAPPED WIRES OR ARMOR

SPECIAL REQUIREMENTS: (SEE BELOW)

- A. 4-20mA OUTPUTS REQUIRE A SHIELDED CABLE TERMINATED AT THE SC BOARD AND AND CUSTOMER END. PIG-TAIL SHIELD CONNECTION OK.
- B. SENSOR CABLE REQUIRES A SHIELDED CABLE TERMINATED TO CHASSIS AT THE SENSOR AND ELECTRONICS ENCLOSURES. PIG-TAIL SHIELD CONNECTION OK.
- C. RS-485 REQUIRES A SHIELDED CABLE TERMINATED AT THE SC BOARD AND THE CUSTOMER END TO THE CHASSIS OR A GROUND TERMINAL. PIG-TAIL SHIELD CONNECTION OK.
- D. USE FERRITE KIT 700054 PROVIDED WITH UNIT.

9. ON STANDARD SENSOR CONTROL PCB SC-TB1 HAS 14 TERMINALS, WITH TWO ANALOG OUTPUTS (AS SHOWN).

ON SENSOR CONTROL PCB WITH HART OPTION SC-TB1 HAS ONLY 12 TERMINALS, WITH ONE ANALOG OUTPUT (NOT SHOWN).

10. TO PREVENT CONDENSATION INSIDE THE ENCLOSURE, KURZ RECOMMENDS CONDUIT SEALS LIKE KILLARK'S ENY-2 OR EQUIVALENT TO BE INSTALLED ON CONDUIT ENTRIES.

KURZ INSTRUMENTS, INC.

FIELD WIRING DIAGRAM
MFT B-SERIES (ATEX)

DWG. SIZE	DWG. NO.	REV.
B	342038	F
SCALE	SHEET 5 OF 5	
NONE		