

SMFCOMX GENERAL CONFIGURATION GUIDE REV A

TERMS: SMF = SINGLE MODE FIBER (USES LASER TYPE "A"=1310nm-TX/1550nm-RX OR "B"=1550nm-TX/1310nm-RX)
 MMF = MULTI MODE FIBER (USES DUPLEX FIBER WITH 2 "ST" CONNECTORS FOR TX(LIGHT) & RX(DARK))

THE SMFCOMX BOARD CAN BE CONFIGURED AS A CONVERTER, REPEATER, OR AS A REPEATER WITH A TAP POINT. THE "MOTHER" BOARD HAS 3 LOCATIONS FOR PLUG-IN MODULES("X","Y","Z"). IF 2 MODULES ARE USED FULL-DUPLEX OPERATION IS POSSIBLE, IF 3 MODULES ARE USED COMMUNICATIONS IS HALF-DUPLEX ONLY. AVAILABLE "X" MODULES: ISOLATED RS232, ISOLATER RS485, USB & TTL. "Y"&"Z" MODULES: SINGLE MODE FIBER & MULTI-MODE DUPLEX FIBER. INPUT VOLTAGE IS 9-35VDC, -40C TO 85C OPERATING TEMPERATURE RANGE, AND 10-90% RELATIVE HUMIDITY(NON-CONDENSING). OPTIONAL CONFORMAL COATING IS AVAILABLE. SMF=SC or LC CONNECTORS & MMF=ST CONNECTORS, TRANSITION FIBER CABLES, ENCLOSURES & POWER SUPPLYS ARE OPTIONAL.

TYPICAL FIBER<=>COPPER CONVERTERS (8 OPTIONS AVAILABLE, "X"&"Y" OR "X"&"Z" MODULES ONLY)

ISOLATED RS232 "X" MODULE REMOVE JB+ JB- JT JTS(2) TB1=TXD TB2=RXD TB3=COM	FULL/HALF DUPLEX
ISOLATED RS485 "X" MODULE INSTALL JB+ JB- JT JTS(2) TB1=485- TB2=485+ TB3=COM	HALF DUPLEX ONLY
USB "X" MODULE WITH MINI-B CONNECTOR (JUMPERS & TERMINALS ARE NOT USED)	FULL/HALF DUPLEX
TTL "X" MODULE REMOVE JB+ JB- JT JTS(2) TB1=TXD TB2=RXD TB3=COM LOW TRUE LOGIC	FULL/HALF DUPLEX
SMF "Y"(OR "Z") MODULE WITH "LC" CONNECTOR FOR ONE FIBER UP TO 15 MILES	FULL/HALF DUPLEX
MMF "Y"(OR "Z") MODULE WITH "ST" CONNECTORS FOR DUPLEX FIBER UP TO 1.0KM+	FULL/HALF DUPLEX

NOTE: RS232 "X" MODULE IS LIMITED TO 460.8Kbps, ALL OTHER MODULES UP TO 921.6Kbps

TYPICAL FIBER<=>FIBER REPEATERS (3 OPTIONS FOR "Y"&"Z" MODULES ONLY) FULL/HALF DUPLEX

SMF<=>SMF REPEATER (TYPICAL LASER TYPES "A"&"B") SINGLE FIBER WITH LC CONNECTORS, UP TO 15 MILES
 MMF<=>MMF REPEATER FOR DUPLEX FIBER CABLE WITH ST CONNECTORS, 1.0KM (UP TO 1 MILE TYPICAL)
 SMF<=>MMF CONVERTING REPEATER (SELECT LASER TYPE "A" OR "B") LC CONNECTOR & ST DUPLEX CONNECTORS
 NOTE: SMF UNITS HAVE A 2% SAMPLE ERROR @921.6Kbps WHICH CAN LIMIT THE NUMBER OF REPEATER STAGES. AT 115.2Kbps 8 STAGES (4 REPEATERS) CAN BE CASCADED WITH A 2% ERROR, IF A 4% ERROR CAN BE TOLORATED THEN THE NUMBER OF STAGES/REPEATERS CAN BE DOUBLED. FOR 9600bps 96 STAGES OR 48 REPEATERS WILL HAVE A 2% ERROR. PLEASE CONTACT US FOR ASSISTANCE IN THIS AREA, 513-874-4796 EDGES ARE SAMPLED EVERY 20ns AND AS A RESULT 2 CONVERTERS ("A"&"B") WOULD HAVE A 4% ERROR, WHEN OPERATING A 921.6Kbps, AND A 2% TOTAL ERROR WHEN OPERATING AT 460.8Kbps. THE BENIFIT OF THIS SAMPELING TECHNIQUE IS TO ALLOW FOR ANY DATA RATE EITHER STANDARD OR NON-STANDARD.

TYPICAL FIBER<=>FIBER<=>COPPER REPEATERS WITH COPPER TAP POINT (12 OPTIONS FOR "X"&"Y"&"Z" MODULES) BY COMBINING THE ABOVE FIBER<=>FIBER REPEATERS WITH THE 4 AVAILABLE "X" MODULES AN ADDITIONAL 12 COMBINATION OF PRODUCTS CAN BE ASSEMBLED. BEACUSE 3 MODULES ARE USED THE OPERATION IS LIMITED TO HALF DUPLEX ONLY TO AVOID "DATA COLLISIONS" THAT OCCUR IN THIS CONFIGURATION. DATA INTO ONE PORT WILL BE TRANSMITTED OUT THE OTHER TWO PORTS. CAN BE USED AS DISTRIBUTION AMPLIFIER FOR 2 FIBERS. ADDITIONAL MODULES ARE UNDER DEVELOPMENT TO EXPAND THE PRODUCT LINE.



FOR ADDITIONAL INFORMATION CALL RON AT 513-638-0228 CELL

LINK:
rs485.com/psmfcomx.html

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		DATE 11-19-12 REV 10-31-13	FOR AUTO CONVERSION
		SCALE NONE	
SHEET 1 OF 1	SMFCOMX-CG	CHKD. BY RES	RES R. E. SMITH 10330 CHESTER ROAD CINCINNATI, OHIO 45215
			DWG. NO. SMFCOMX-CG REV. A