



**femto-TECH, INC.**  
**FEMTO LABORATORIES**

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***femto*-TECH CONTROL UNIT**  
**MODEL U24-D**  
**SPECIFICATIONS**

Power	100 to 125 VAC, 50 to 60 Hz (built-in filter), factory settable for 200 to 240 VAC
Fusing	2 Amp line fuse in power entry module
Display	Custom 12 digit red LED matrix display readable at 50 feet (15.2 meter)
Mode Control	Mode and increment/decrement buttons provide the ability to select high and low alarm set points, zero offset, and gamma compensation level.
Zero Check	Electronic zero test - push button with display on front
Zero Adjust	Electronic zero adjust - push button switch plus zero adjust and digital panel meter display. To be performed with Zero Check.
Instrument Test	Functional check of entire electrometer, signal conditioning and readout electronics. Push button switch activated and display of $13000 \pm 390 \mu\text{Ci}/\text{m}^3$ .
Alarms	Two audio/visual alarms with acknowledge and automatic reset. Set points are independent and adjustable throughout both ranges.
Alarm Lockout	Automatic 90 second alarm lockout on power up and zero .
Outputs	Linear (or logarithmic optional) output proportional to tritium concentration, range indicator, high and low alarm indicators, and U24-D fault indicator, relay contacts for each alarm
Data Storage	All instrument settings (alarm settings, offset, etc.) retained in EEPROM.
Communications	Serial interface compliant with RS-232C and RS-422 standards. Data is tritium concentration in ASCII format (1200 or 9600 selectable baud rate).
Installation	The ion chamber and control unit can be located up to 1000 feet (305m) apart without degradation of signal. The U24-D can be located up to 4000 feet (1219m) from the data acquisition system or TRI-1 Tritium Remote Interface.
Dimensions	U24-D alone is 3.5" (8.9cm) high x 16.75" (42.54cm) wide (19" (48.26cm) with rack mount hardware) x 12" (30.48cm) deep.
Weight	12 lbs.(5.5 kg.), 20 lbs.(9.1 kg.) shipping

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## OUTPUTS

Amphenol 14-pin connector MS3102A-20-27S (MATES TO CABLE CONNECTOR MS3106A-20-27P)

A	Tritium Concentration Analog Output (0-2 VDC, 0-5 VDC, 0-10 VDC)			
B	Common			
C	Range Indicator (0 VDC = range 1, 5, 12, or 24 VDC = range 2)			
D	Fault Indicator (0 VDC = no fault, 5, 12, or 24 VDC = fault)      Fault is an excessive negative reading			
E	Common			
F	+5 VDC			
G	+12 VDC			
H	+24 VDC			
I	Alarm 1 Common	POWER OFF	NO ALARM	ALARM ACTIVE
J	Alarm 1 N/O Contact	OPEN	CLOSED	OPEN
K	Alarm 1 N/C Contact	CLOSED	OPEN	CLOSED
L	Alarm 2 Common			
M	Alarm 2 N/O Contact	OPEN	CLOSED	OPEN
N	Alarm 2 N/C Contact	CLOSED	OPEN	CLOSED