




















6 Trouble-shooting

This instrument performs diagnostic tests on power up as well as once every two minutes. Follow the instructions in the tables of sections 6.1 and 6.2 for trouble shooting problems.

6.1 Special messages, warnings and error indications

DISPLAY	EXPLANATION	REQUIRED ACTION
LO Err 	PROM check sum failed.	cycle power if problem persists, return to your representative for service.
HI Err 	RAM write/read test failed.	
% Err 	Unidentified power-up failure.	
C.SF/ 	EEPROM Check Sum Failed.	
Err/Rd 	A/D converter failure.	make sure that the unit is at a temperature of -10°C to +70°C.
Err/rEF 	Reference voltage for A/D out of spec.	
Lo/bAt 	Low supply voltage.	
LO r nG/ TEMP 	Instrument low temperature range has been exceeded.	
HI r nG/ TEMP 	Instrument high temperature range has been exceeded.	see table in section 6.2 select sensor and autocal.
oPn/ 	Sensor circuit is open .	
SRt/ 	Sensor is saturated .	
SHr/ 	Sensor circuit is shorted .	
...	Trying to calculate dewpoint for undefined sensor.	see autocal instructions.
db 	Trying to calibrate an undefined sensor.	
SEn/2Lo 	Sensor reading is ' too ' low to be from a saturated sensor, for autocal.	Check the means of opening & shorting the sensor cable. see section 4.3 - 9
2Lo 2HI	While Compensating for cable length, the measurement did not correspond to the expected open or short values.	
Err/EEP 	EEPROM write cycle not completed.	if this persists, return for service. unlock unit, see set-up mode. See section 4.4.2 Setting the Alarms. check the cables connecting the analog output, make sure the terminating impedance is less than 500Ω.
LoC 	Attempting to modify a locked unit.	
HI (flashing while viewing DEWPOINT)	The HI Alarm (alarm #1) relay is deenergized.	
LO (flashing while viewing DEWPOINT)	The LO Alarm (alarm #2) relay is deenergized.	
R.o./oPn 	The Analog Output 'sees' an open circuit	
ΞEn 	Turn on message, Xertaur (Greek Ξ=X)	

Legend:  denotes a beeping accompaniment to the message.
/ denotes alternately flashing messages.

6.2 Trouble-shooting Unexpected Readings

Symptom	Possible Cause	Diagnostic/Remedy
Reading is not changing	Condensation in sample system.	Condensation will occur if the temperature of the sample system, at any point is below (colder) the dewpoint temperature of the sample gas. Once having formed, the sample reaching the sensor will have a dewpoint equal to the temperature of the condensation, regardless of the dewpoint of the sample at the sample point.
Slow Response	1. Water vapor in the system. 2. Flow rate too low. 3. Sample pipe too large. 4. Unsuitable sample pipe.	It is usually more satisfactory to bleed a sample gas at atmospheric pressure through the sensor sampling chamber, and to use 1/8" (3mm) o.d. sample pipe. See below re sample pipe material, also see section 3.1 .
Dry Reading	Automatic Calibration, wrongly set, or faulty Sensor.	Check Automatic Calibration, or return sensor for full calibration to your representative.
Wet Reading	Leak in system or use of unsuitable pipe.	Cure the leak, or replace unsuitable pipe with copper or stainless steel. Flexible connections should be made with PTFE pipe. NEVER use rubber or plastic pipe.
	Comparison of readings with manual cooled-mirror instrument.	This type of indicator reads about 10°C dry at about -50°C dewpoint due to temperature gradients within the device. The error increases at drier levels.
Display Shows SAT	Wet gas.	Dry down the sensor (see section 4.2.3).
Display Shows SHr	1. Instrument Failure	Disconnect cable from input terminals, if the instrument still reads SHr the problem is with the instrument, (see section 6.3 .) However, if the instrument reads oPn then check possible causes 2 or 3.
	2. Short circuit on sensor cable or connections.	Disconnect cable from sensor and if meter still reads SHr, cure the short circuit in the cable or connections or replace cable; otherwise check the sensor.
	3. Short circuited sensor.	Disconnect cable from sensor and note that the meter reading returns to oPn. Use a new sensor, or apply approximately 20V DC to the sensor MOMENTARILY with the sensor in a known dry condition. Polarity is not important, but the contact MUST be very brief or the sensor may be damaged.
Display Shows oPn.	1. Instrument failure.	Short the SIG and SHIELD contacts of the sensor input terminal, if the instrument reads SHr the problem is in the cable or sensor, otherwise return the instrument for service.
	2. Open circuit on cable.	Disconnect cable from sensor and short center pin of plug to the outer shell. If the display still shows oPn, repair cable.
	3. Open circuit on sensor.	Check sensor connection or replace sensor.