

7.2 Fault Diagnosis

Table I – *Faults*: See Figure 7 – 1 for fault area diagnosis

Note: The specified error messages are initially output as faults (stable error voltage level at the actual value output, alarm LED kit continuously, alarm relay energized)

Error Code	Cause	Fault Area if First Startup	Fault Area if Active System
101	Ir signal missing	Fault area 1	Fault area 1
102	Ur signal missing	Fault area 3	Fault area 3
103	Ur and Ir signals missing	Fault area 2	Fault areas 2 3
107	Temperature step down	Fault areas 4 5 6 (Loose contact)	Fault areas 4 5 6 (Loose contact)
108	Temperature step up	Fault areas 4 5 6 (Loose contact)	Fault areas 4 5 6 (Loose contact)
307 308 309 310	Temperature too low/high		
201	Line frequency is missing	Check power supply	Check power supply
202	Line frequency too high/fluctuating	Check power supply	Check power supply
203	Line frequency too low/fluctuating	Check power supply	Check power supply
304	Heat-up time too long	RESET the controller	RESET the controller
901	No line voltage/Sync signal	Check power	Check power
913	Triac defective	Replace controller	Replace controller
914 915 916	Internal fault	Replace controller	Replace controller
917 918	Jumper for alarm output wrong	Check alarm jumper	Check alarm jumper

Table II – *Warnings:* See Figure 7 – 1 for fault area diagnosis

Note: The specified error messages are initially output as warnings (actual value output jumps back and forth between two values; alarm LED blinks, alarm relay de-energized.) When the START signal is activated, the warning changes to a fault (actual output no longer jumps back and forth, alarm LED lights continuously, alarm relay is energized)

Error Code	Cause	Fault Area if First Startup	Fault Area if Active System
104	Ir signals incorrect Incorrect transformer specification	Run Auto Cal (section 4.3)	Fault areas 4 5 6 (Loose contact)
105	Ur signals incorrect Incorrect transformer specification	Run Auto Cal (section 4.3)	Fault areas 4 5 6 (Loose contact)
106	Ir and/or Ur signals incorrect Incorrect transformer specification	Run Auto Cal (section 4.3)	Fault areas 4 5 6 (Loose contact)
302	Temperature too low, Auto Cal was not performed, Loose contact(s)	Run Auto Cal (section 4.3)	Fault areas 4 5 6 (Loose contact)
303	Temperature too high, Auto Cal was not performed, Loose contact(s)	Run Auto Cal (section 4.3)	Fault areas 4 5 6 (Loose contact)
211	Data error	Run Auto Cal	Run Auto Cal
111	Ir signals incorrect Calibration not possible	Fault area 8	Fault areas 4 5 6 (Loose contact)
112	Ur signals incorrect Calibration not possible	Fault area 7	Fault areas 4 5 6 (Loose contact)
113	Ir and Ur signals incorrect Calibration not possible	Fault area 7 8	Fault areas 4 5 6 (Loose contact)
114	Temperature fluctuates Calibration not possible	Run Auto Cal And/or Fault areas 4 5 6 (loose contact)	Run Auto Cal And/or Fault areas 4 5 6 (loose contact)
115	External calibration temperature too high Calibration not possible	Run Auto Cal with ambient temperature < 45C	Run Auto Cal with ambient temperature < 45C
116	External calibration temperature fluctuates Calibration not possible	Run Auto Cal with stable ambient temperature	Run Auto Cal with stable ambient temperature

Fault Area Diagnosis

Fault Area	Explanation	Possible Causes
1	Load circuit interrupted after Ur pick off point PEX-W2/W3 current transformer signal interrupted	Wire break, heat sealing band break, contact to heat sealing band defective Ir measurement cable from current transformer interrupted
2	Primary circuit interrupted Secondary circuit interrupted before Ur pick off point	Wire break, triac in controller defective Primary winding of impulse transformer interrupted Wire break, Secondary winding of impulse transformer interrupted
3	No Ur signal	Measurement cables interrupted
4	Partial short circuit (delta R)	Heater band partially bypassed by conducting part
5	Parallel circuit interrupted	Wire break, heater band break, contact to heater band is defective
6	Total short – circuit	Heater band installed incorrectly, no insulation at the heater band ends or insulation incorrectly installed, Heater band bypassed by conducting part
7	Ur signals incorrect	U2 outside of permissible range .4 → 120/220 VAC
8	Ir signals incorrect Turns through PEX-W2/W3 current transformer incorrect	I2 outside of permissible range 30 → 500A Check number of turns (two or more turns required for currents < 30 A)
9	Internal controller error No line voltage	Hardware fault (replace controller) Jumper for fault relay not connected or incorrectly connected No line voltage

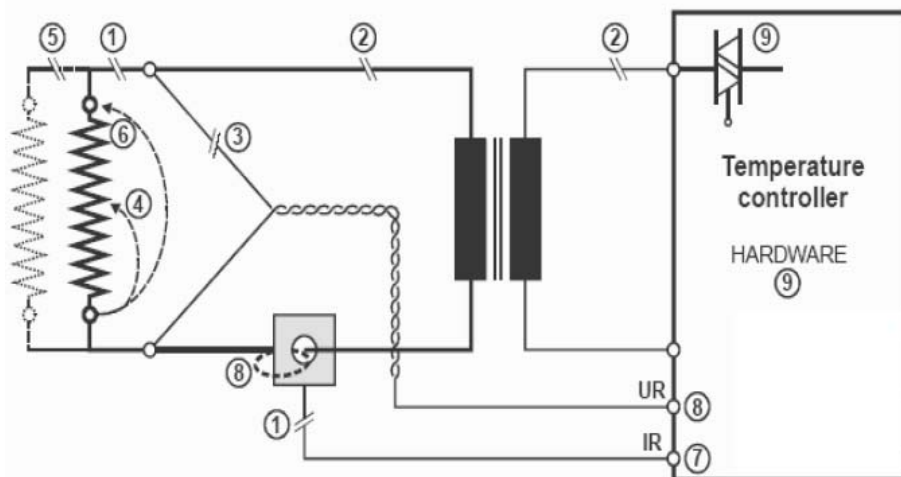


Figure 7 – 1