

Model 9010 and 9020 Control Unit Differences Between Revisions 2 and 3

This Addendum:

- Identifies differences between Model 9010/9020 Control Units with Revision 2 and Revision 3 control boards.
- Can be disregarded if your Model 9010/9020 Controller contains all Revision 3 control boards.

Functionality

- Many functional aspects of the Revision 3 control unit are unchanged from Revision 2; where changes occur, a description is provided.
 - For a full description of the specifications, see Model 9010 and 9020 Monitoring Systems Instruction Manual (P/N 10060566). Refer to TABLE 4 for the appropriate manual revision.
- Required power connections remain unchanged:
 - 115 to 230 VAC $\pm 15\%$; 50 to 60 Hz and/or 24 VDC $+15\%$ to -20%
 - Sensor connections and interface specifications remain unchanged:
 - Control unit accepts 2-wire and 3-wire 4 to 20 mA sensors.
 - Power consumption for the Revision 3 control unit is slightly less than for Revision 2 (TABLE 1).

Table 1. Power Consumption Changes

		REVISION 2	REVISION 3
AC Consumption	Model 9010	15 VA	13 VA
	Model 9020	17 VA	15 VA
DC Consumption	Model 9010	4 W	3 W
	Model 9020	6 W	4 W

- Access Codes for the Revision 3 control unit have additional features (TABLE 2).

Table 2. Access Code Changes

ACCESS CODE	NEW FUNCTION CODES	NEW FEATURE DESCRIPTION
1 Calibration (Not Required for 4 to 20 mA Sensors)	P7	Calibration enabled or disabled (Only for 4 to 20 mA configured boards)
	P8	Indication enabled or disabled with the CAL tag for reduction of sensor signal under 50% with respect to the preceding calibration
	P20	Storage of board configuration per customer calibration data sheet
2 Special Operating Conditions	P4	Low external 24 VDC indication
	P5	Low 115/230 VAC indication
3 Simulation/Function Test	N/A	No feature changes
4 Configuration	P22	Configuration for output failure manual reset (1M)
	P23	Adjustment for 4 mA output signal
	P24	Adjustment for 20 mA output signal
7 RS485 Settings	P2	RS485 Zone Setting
	P3	RS485 Redundancy Option

In addition to the above new functions, the following changes were made to existing Access Codes:

ACCESS CODE	FUNCTION CODES	DESCRIPTION OF CHANGE
4 Configuration	P1	Constant current supply for sensor: Permitted Value was 5 to 500 mA; is now 0 to 500 mA
	P3	Gas reading negative drift: Permitted Value was 0 – (-10)%; is now (-1) – (-10)%
5 Printer	N/A	Print Feature Removed

Approvals

The 9010/9020 Controllers with Rev. 3 boards are approved by FM Approvals and tested to additional standards per TABLE 3:

Table 3. Additional Standards

REVISION 2 (cMETus)	REVISION 3 (cFMus)
1. 61010-1 Fire and Shock	1. 61010-1 Fire and Shock
	2. ISA 12.13.01 Combustible Performance
	3. CSA 152 Combustible Performance
	4. FM 6340 Oxygen Performance

NOTE: Adding Revision 3 control units to a system containing Revision 2 control units violates the MET approval. The user may submit the combination to an AHJ (Authority having Jurisdiction) for acceptance. In this case, the MET approval label must be removed or permanently defaced.

Manuals

TABLE 4 shows which manual revision corresponds to the respective control unit revision.

Table 4. Instruction Manual/Control Unit Correlation

INSTRUCTION MANUAL (P/N 10060566) REVISION	9010 / 9020 CONTROL UNIT REVISION
3	2
4	3

Board-Level Differences

Control Unit Rev 3 Physical Differences:

1. Fuse F1 (Mains Supply Input Fuse) is closer to input pin 1 on the control unit terminal strip.
2. Fuses F2 and F3 remain in the same approximate location.
3. Additional jumper differences are noted in TABLE 5.

Table 5. Additional Jumper Changes

JUMPER FUNCTION	REVISION 2	REVISION 3
24 VDC Supply Source	CV 4: Position 1-2 set for External DC Supply	CV 18: Position 1-2 set for on-board DC supply
		Position 2-3 set for external DC supply
Factory Settings	CV 1, CV 2, CV 3, CV 7, CV 15, 16	CV 1-17, CV 20-24
Horn Relay Settings	CV 17:	CV 19:
	Position 1-2 set for normally closed	Position 1-2 set for normally closed
	Position 2-3 set for normally open	Position 2-3 set for normally open
Watchdog Activation	N/A	CV 25
115 / 230 VAC Supply	CV 5, 6	Switch S1

NOTE: The Revision 3 control unit is identified by the 2-wire or 3-wire sensor label on the controller front panel, which shows "REV 3".

The sensor labels for the Revision 2 control unit do not specify the revision. (FIGURES 1 and 2).



Figure 1. Sensor Label, Revision 2 Control Unit



Figure 2. Sensor Label, Revision 3 Control Unit