

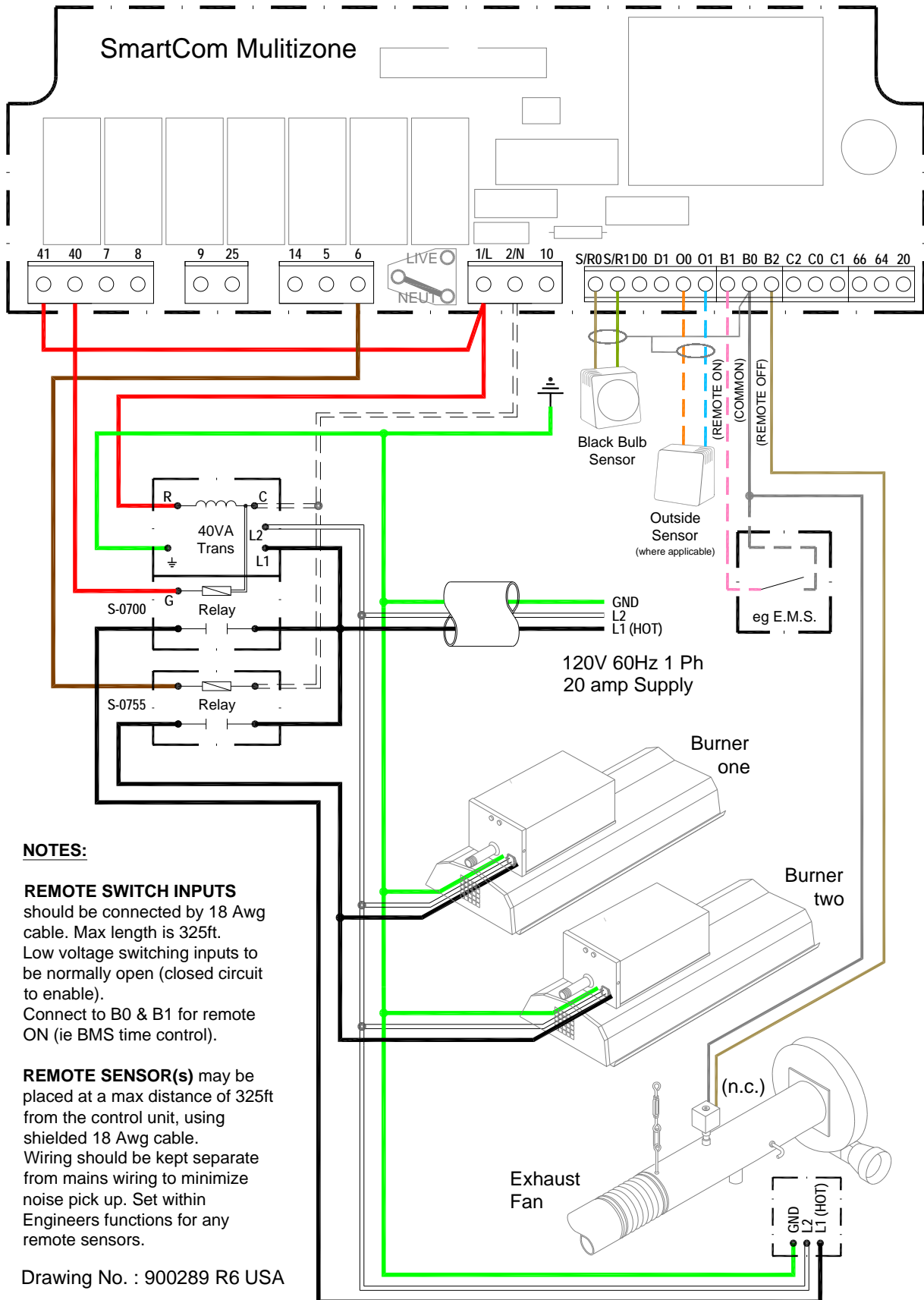


SmartCom3

ARC CONTINUOUS RADIANT INTERCONNECTING MANUAL

⚠ WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

1 Single Zone System.



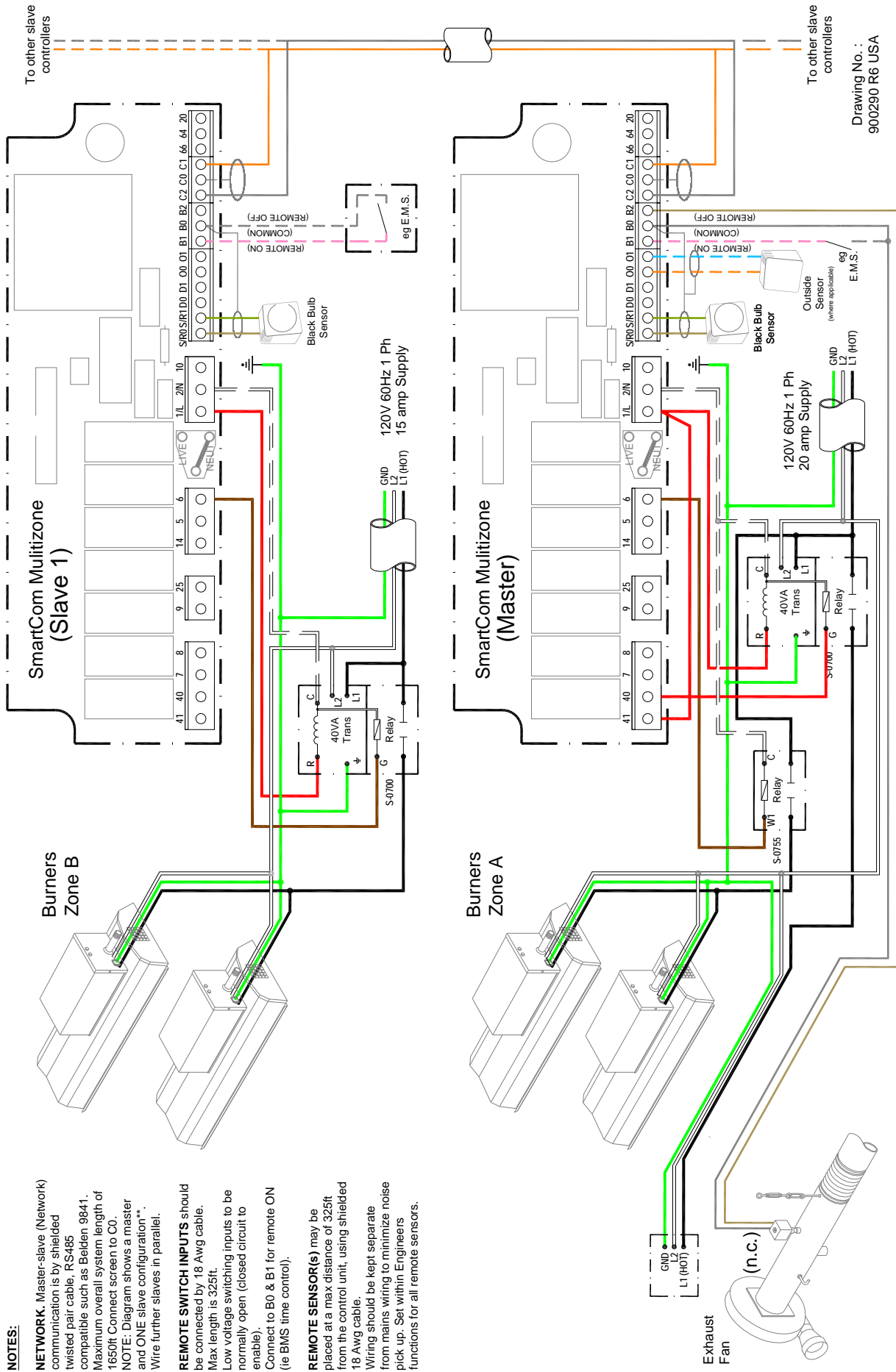
NOTES:

REMOTE SWITCH INPUTS should be connected by 18 Awg cable. Max length is 325ft. Low voltage switching inputs to be normally open (closed circuit to enable). Connect to B0 & B1 for remote ON (ie BMS time control).

REMOTE SENSOR(s) may be placed at a max distance of 325ft from the control unit, using shielded 18 Awg cable. Wiring should be kept separate from mains wiring to minimize noise pick up. Set within Engineers functions for any remote sensors.

Drawing No. : 900289 R6 USA

2 Split Zone System.



Drawing No. :
900290 RG USA

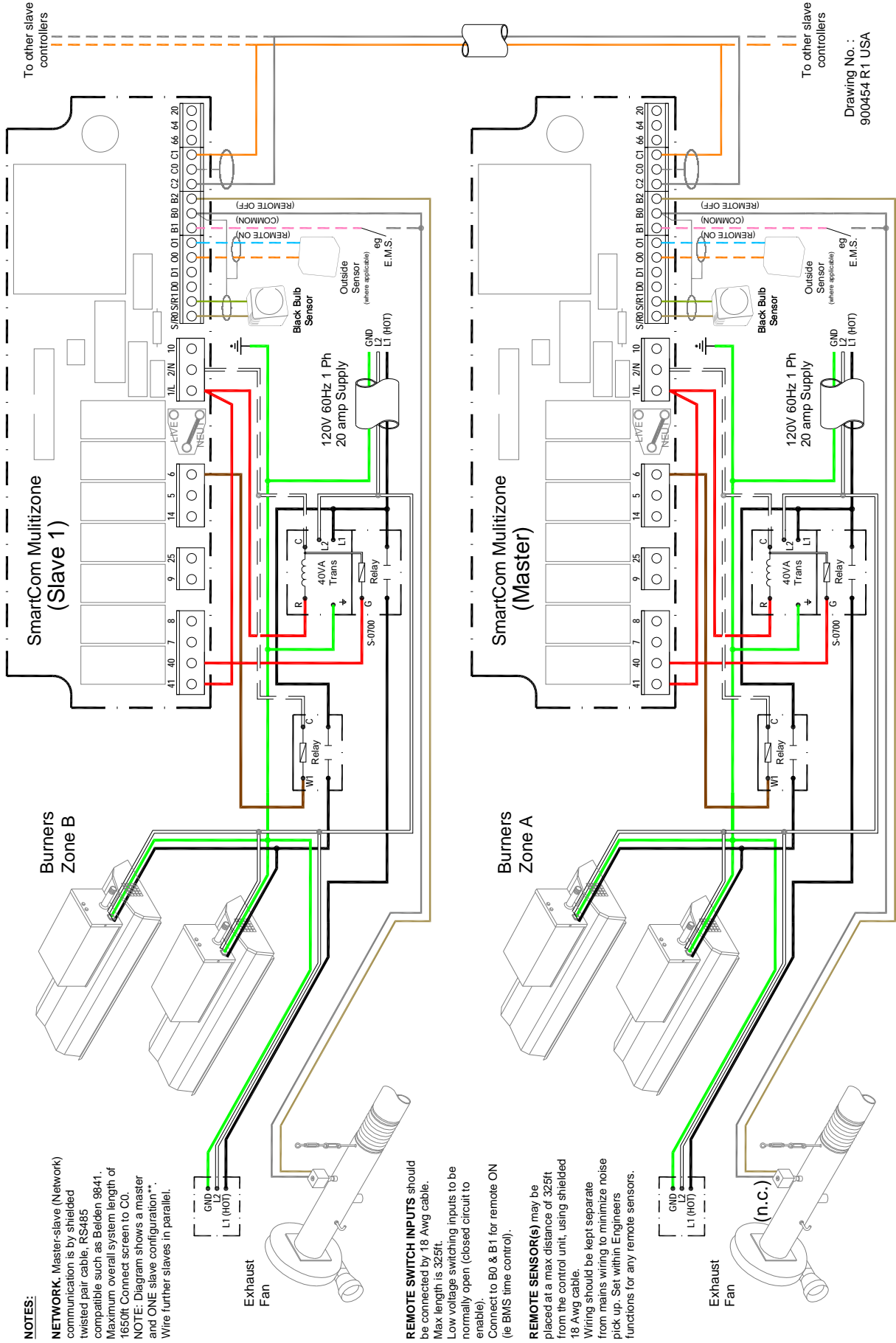
NOTES:

NETWORK. Master-slave (Network) communication is by shielded twisted pair cable, RS-485 compatible such as Belden 9841. Maximum overall system length of 1650ft. Connect screen to C0.
NOTE: Diagram shows a master and ONE slave configuration**. Wire further slaves in parallel.

REMOTE SWITCH INPUTS should be connected by 18 Awg cable. Max length is 325ft. Low voltage switching inputs to be normally open (closed circuit to enable).
Connect to B0 & B1 for remote ON (ie BMS time control).

REMOTE SENSOR(S) may be placed at a max distance of 325ft from the control unit, using shielded 18 Awg cable. Wiring should be kept separate from mains wiring to minimize noise pick up. Set within Engineers functions for all remote sensors.

3 Multizone System.



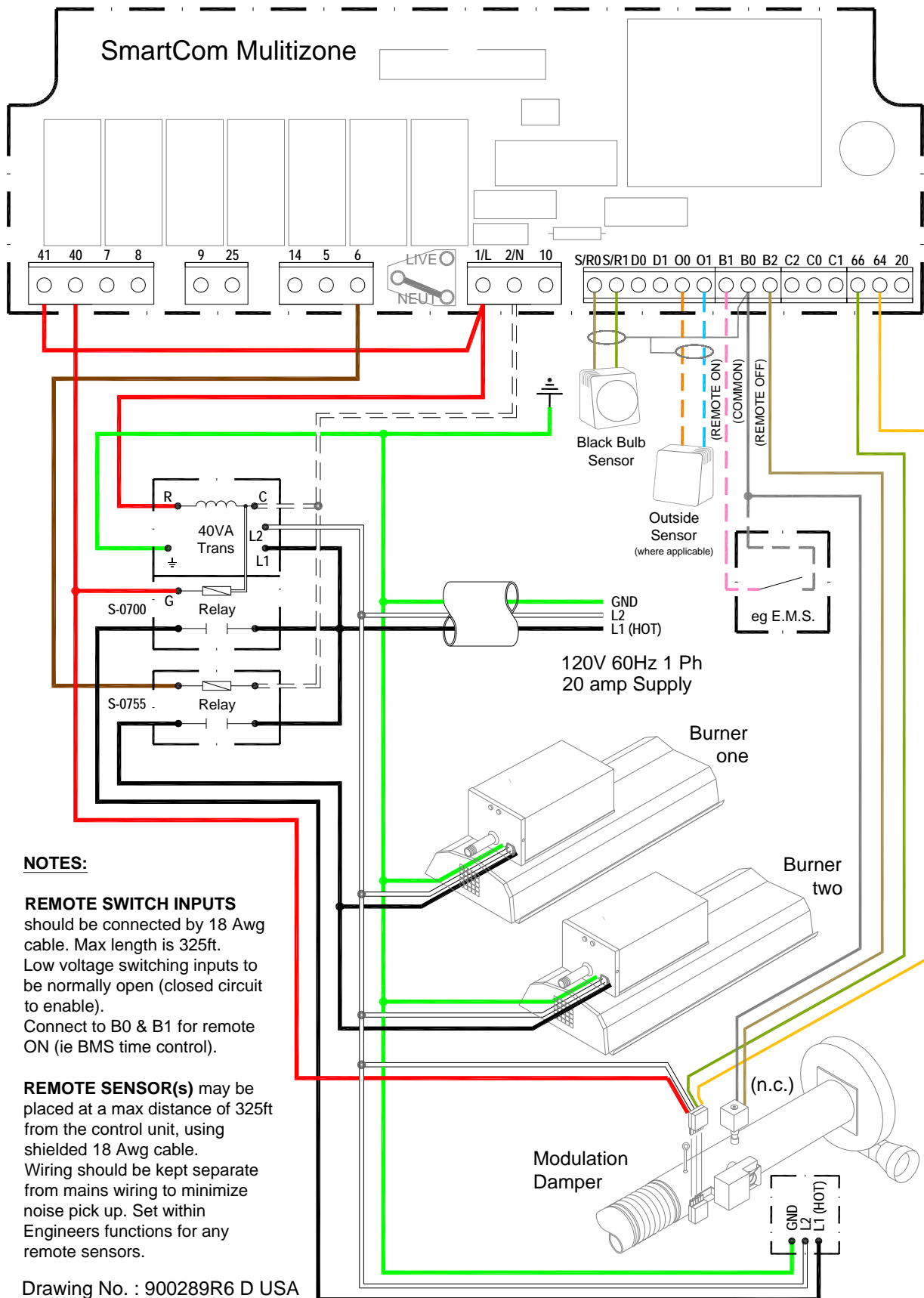
NOTES:
NETWORK. Master-slave (Network) communication is by shielded twisted pair cable, RS485 compatible such as Belden 9641. Maximum overall system length of 1650ft Connect screen to C0.
NOTE: Diagram shows a master and ONE slave configuration**. Wire further slaves in parallel.

REMOTE SWITCH INPUTS should be connected by 18 Awg cable. Max length is 325ft. Low voltage switching inputs to be normally open (closed circuit to enable). Connect to B0 & B1 for remote ON (ie BMS time control).

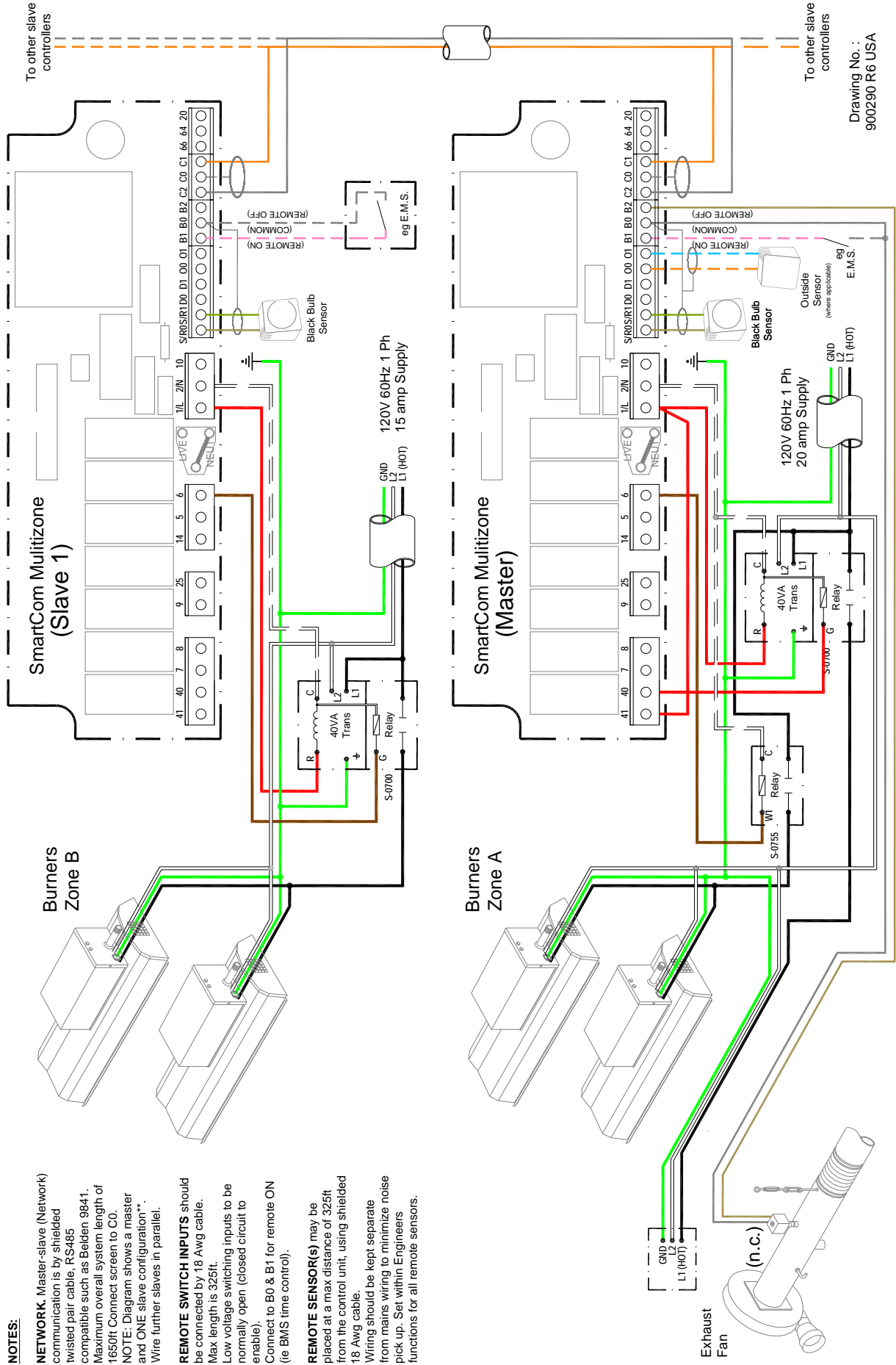
REMOTE SENSOR(S) may be placed at a max distance of 325ft from the control unit, using shielded 18 Awg cable. Wiring should be kept separate from mains wiring to minimize noise pick up. Set within Engineers functions for any remote sensors.

Drawing No. : 900454 R1 USA

4 Single Zone System c/w Motorised Damper.



5 Modulating Split Zone System.

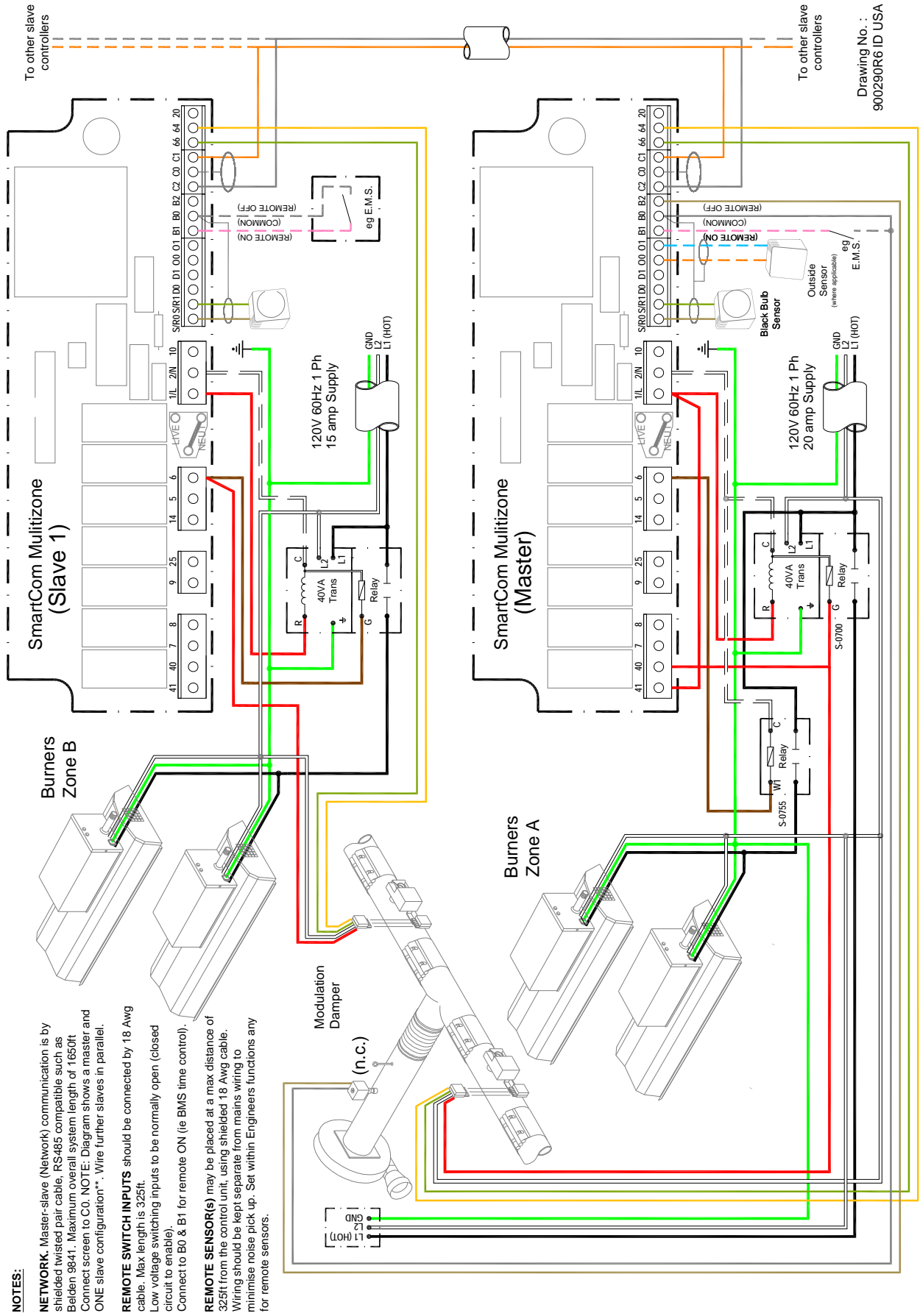


NOTES:

- NETWORK.** Master-slave (Network) communication is by shielded twisted pair cable, RS485 compatible such as Belden 9841. Maximum overall system length of 1650ft. Connect screen to C0.
- NOTE:** Diagram shows a master and ONE slave configuration**. Wire further slaves in parallel.
- REMOTE SWITCH INPUTS** should be connected by 18 Awg cable. Max length is 325ft. Low voltage switching inputs to be normally open (closed circuit to enable). Connect to B0 & B1 for remote ON (ie BMS time control).
- REMOTE SENSOR(s)** may be placed at a max distance of 325ft from the control unit, using shielded 18 Awg cable. Wiring should be kept separate from mains wiring to minimize noise pick up. Set within Engineers functions for all remote sensors.

Drawing No. :
900290 R6 USA

6 Independently Modulating Split Zone System

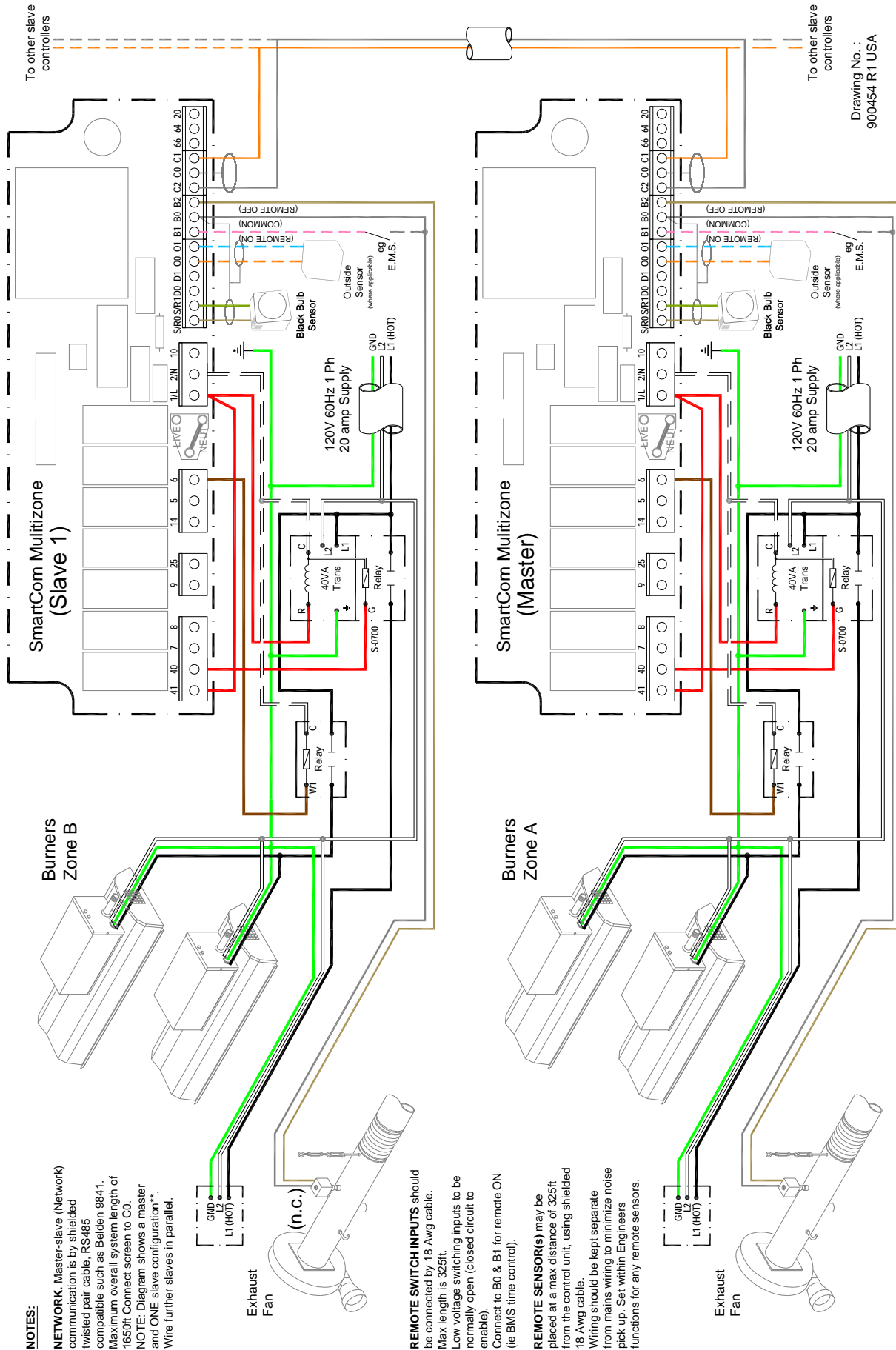


Drawing No. : 900290R6 ID USA

NOTES:

- NETWORK.** Master-slave (Network) communication is by shielded twisted pair cable, RS-485 compatible such as Belden 9841. Maximum overall system length of 1650ft. Connect screen to C0. NOTE: Diagram shows a master and ONE slave configuration**. Wire further slaves in parallel.
- REMOTE SWITCH INPUTS** should be connected by 18 Awg cable. Max length is 325ft. Low voltage switching inputs to be normally open (closed circuit to enable). Connect to B0 & B1 for remote ON (ie BMS time control).
- REMOTE SENSOR(S)** may be placed at a max distance of 325ft from the control unit, using shielded 18 Awg cable. Wiring should be kept separate from mains wiring to minimise noise pick up. Set within Engineers functions any for remote sensors.

7 Multizone Modulating System



NOTES:

NETWORK. Master-slave (Network) communication is by shielded twisted pair cable, RS485 compatible such as Belden 9841. Maximum overall system length of 1600ft Connect screen to CO.
NOTE: Diagram shows a master and ONE slave configuration**. Wire further slaves in parallel.

REMOTE SWITCH INPUTS should be connected by 18 Awg cable. Max length is 325ft. Low voltage switching inputs to be normally open (closed circuit to enable). Connect to B0 & B1 for remote ON (ie BMS time control).

REMOTE SENSOR(s) may be placed at a max distance of 325ft from the control unit, using shielded 18 Awg cable. Wiring should be kept separate from mains wiring to minimize noise pick up. Set within Engineers functions for any remote sensors.

Drawing No. :
900454 R1 USA

8 Modulation Damper and Pressure Switches

The fan damper is wired via a plug and socket arrangement. The socket is connected to the assembly via a bracket.

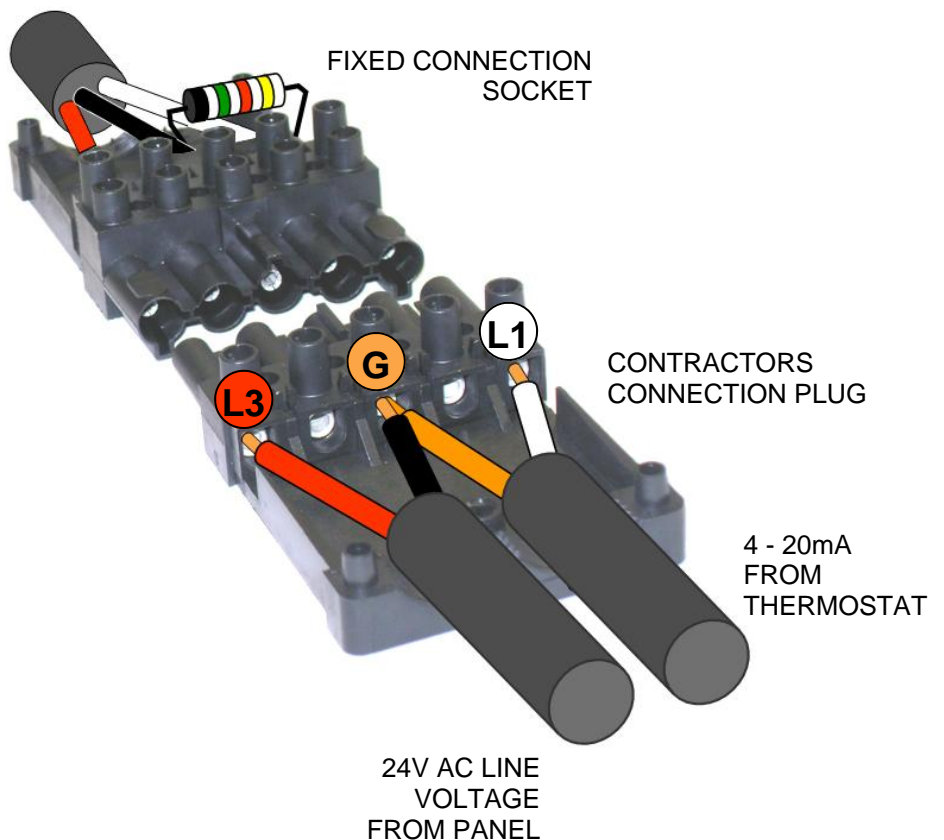
Release the loose plug and remove the cap via two screws.

Connect the incoming 24V cable from the Control panel onto terminals L3 and GND, ensuring correct orientation.

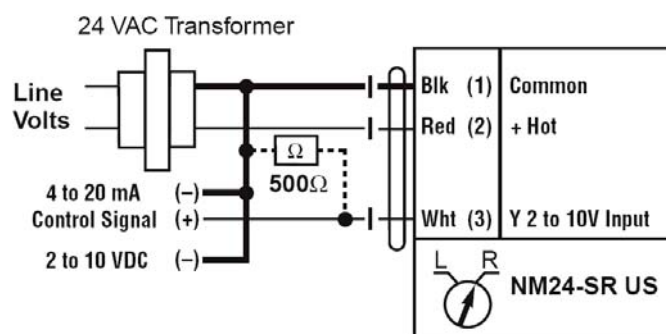
Connect the incoming 4-20mA cable from the modulation thermostat onto terminals L1 and GND, ensuring correct orientation.

Refer to low voltage external wiring diagram for control panel and modulation thermostat terminations.

Replace the cap and plug into socket.



SCHEMATIC DIAGRAM



PRESSURE SWITCH CONNECTIONS

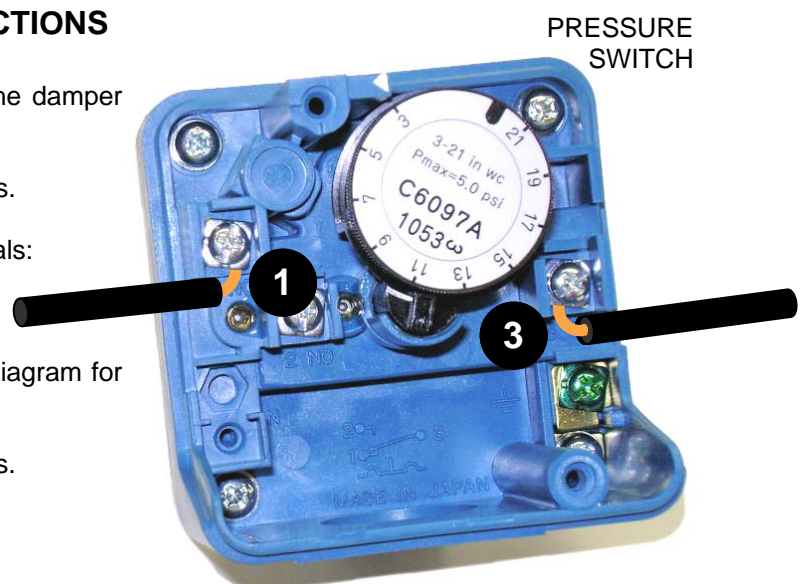
The pressure switch is attached to the damper assembly

Release the plastic cap via two screws.

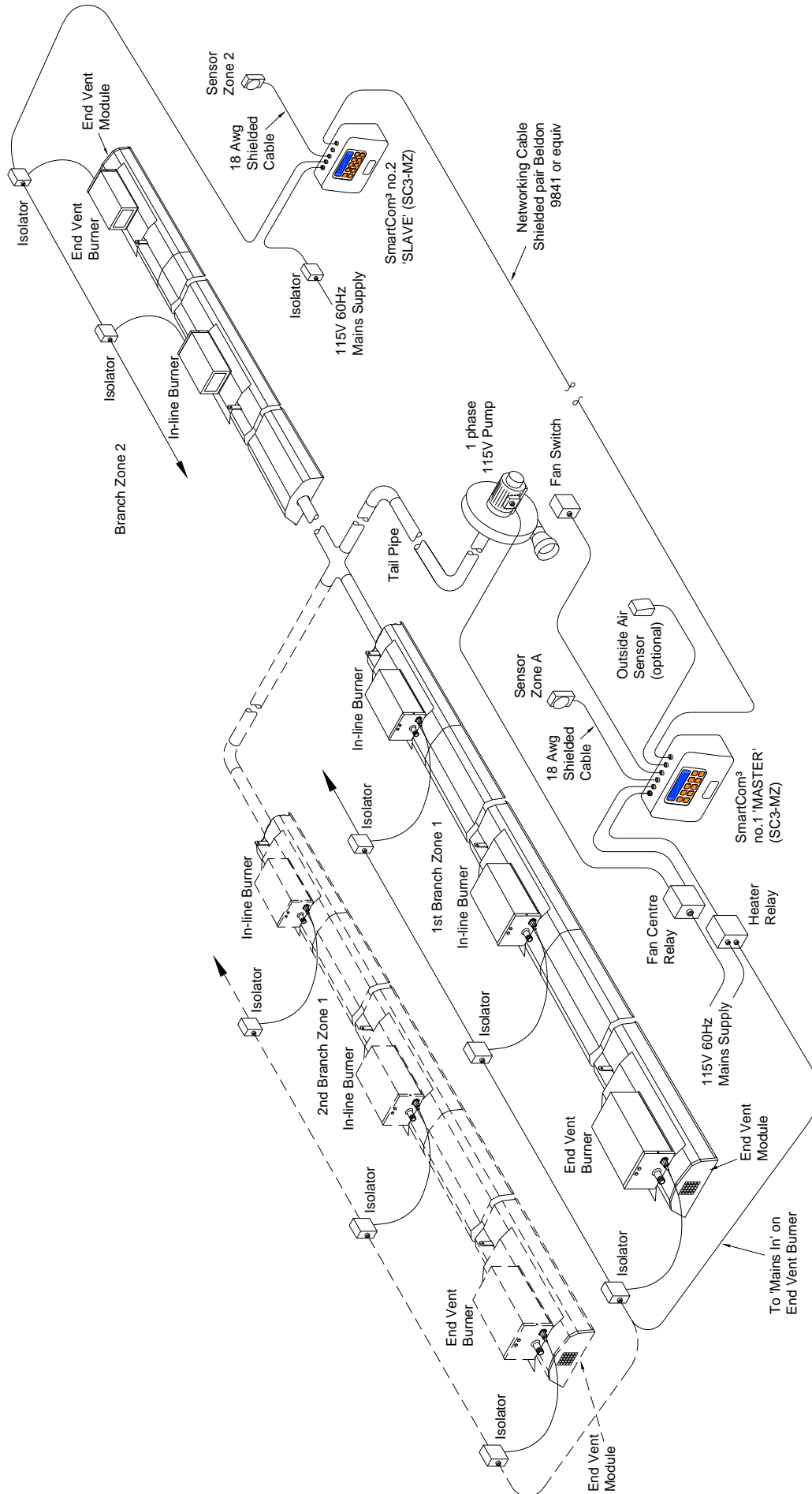
Connect the incoming cable to terminals:
 1 - normally closed contact
 3 - common contact

Refer to low voltage external wiring diagram for control panel terminations.

Replace the plastic cap via two screws.



9 Schematic Two Zone One Fan ARC System.



10 Modulation End Vent Suction Setting Procedure.

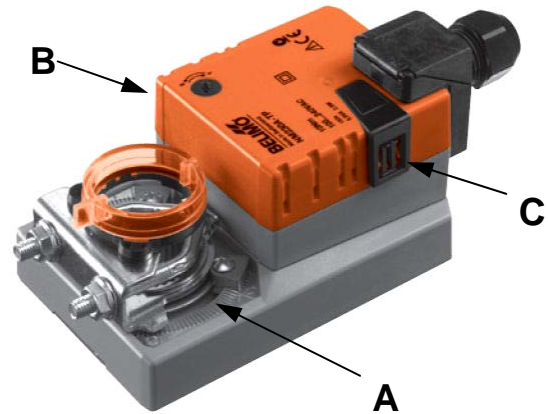
The high/low fire end vent suction adjustment is made using the fan damper.

Setting Maximum Fire End Vent Suction.

1. Isolate supply from the motorised damper.
2. Press and hold the manual override button (C) — damper can now be adjusted manually.
3. Rotate damper spindle until end vent suction of between 2.5" to 3" WG is achieved. Release the manual override button.
4. Using a phillips screwdriver, reposition the mechanical end stop (A) to final bracket position.
5. Reconnect power to damper. Recheck correct direction of rotation (i.e. when 4mA from controller = damper fully open.) If this is not correct, use a flat head screwdriver and change the direction switch (B).

Setting Minimum Fire End Vent Suction.

1. Isolate supply from the motorised damper.
2. Press and hold the manual override



- button (C) — damper can now be adjusted manually.
3. Rotate damper spindle until low fire end vent suction of between 0.5" to 1" WG is achieved. Release the manual override button (C).
4. Using a phillips screwdriver, reposition the mechanical end stop (A) to final bracket position.
5. Reconnect power to damper. Recheck correct direction of rotation (i.e. when 4mA from controller = damper fully open.) If this is not correct, use a flat head screwdriver and change the direction switch (B).

11 Modulation Technical Information.

		Heater Model			
		ARC18LR(M)	ARC24LR(M)	ARC32LR(M)	ARC38LR(M)
Minimum Fire BTU		30,000	39,000	52,000	63,000
Maximum Fire BTU		74,000	98,000	130,000	155,000
Jet Size	LPG	L100535 (3.5mm)	L100540 (4.0mm)	L100544 (4.4mm)	L100548 (4.8mm)
	Nat Gas	L100544 (4.4mm)	L100549 (4.9mm)	L100554 (5.4mm)	L100558 (5.8mm)
Shutter Plate		L100321 (17mm)	L100320 (19.5mm)	L100314 (22mm)	L100316 (24mm)
End Vent Orifice Plate		L104102 (16mm)	L104101 (24mm)	L104100 (27mm)	L104103 (28mm)
End Vent Suction (All Models)					
Minimum Fire		0.5" to 1" WG			
Maximum Fire		2.5" to 3" WG			

Nb

Please contact an AmbiRad representative for installations over 4000' elevation

12 SmartCom³ ARC Commissioning.



For ease and swiftness of initial start-up, the SmartCom³ range of electronic controllers is supplied factory pre-set to default settings as described in the SmartCom³ Installation and User Manual ref US/SCOM/29.










































immediately with standard **Infrared Radiant heaters.**

To alter the control system to a single or multi-zone ARC systems and operated along with a Black Bulb Sensor, then the engineers' settings will have to be modified.

The controllers will therefore operate

In order to access the engineer functions:

Press and hold in the  button and at the same time, press the  button.

		CONTROL TYPE RADIANT SET/OK	press  to advance
		ARC HEATERS OFF SET/OK	press  to alter
press 	once for ARC heaters	ARC HEATERS ON SET/OK	press  to accept. Press  to advance
		RAD/ARC/HB SPLIT OFF SET/OK	press  to alter or press  to advance
press 	once for split zonal systems	RAD/ARC/HB SPLIT ON SET/OK	press  to accept. Press  to advance
press 		INTERNAL SENSOR ON SET/OK	press  to alter or press  to advance
press 	once to turn off internal	INTERNAL SENSOR OFF SET/OK	press  to accept. Press  to advance
		EXTERNAL SENSOR OFF SET/OK	press  to alter or press  to advance
press 	once to turn on external	EXTERNAL SENSOR ON SET/OK	press  to accept. Press  to advance
		NETWORKING OFF SET/OK	press  to alter or press  to advance
press 	once for master slave	NETWORKING ON SET/OK	press  to accept. Press  to advance
		MASTER UNIT OFF SET/OK	press  to alter or press  to advance
press 	once if master unit	MASTER UNIT ON SET/OK	press  to accept. Press  to advance
		SLAVE UNIT 0 SET/OK	press  to alter or press  to advance
press 	for unique slave number	SLAVE UNIT 3 SET/OK	press  to accept. Press  to advance
		SLAVE TOTAL 0 SET/OK	press  to alter or press  to advance
press 	for total no. of slaves	SLAVE TOTAL 6 SET/OK	press  to accept. Press  to advance

Notes:

MASTER & SLAVE (NETWORK)

When setting up a SmartCom³ Master and Slave (Network) system, the master controller will display an error message during commissioning. This will clear once the commissioning is complete.



REMOTE SWITCHED INPUTS

SmartCom³ controllers can be operated remotely via a remote ON or a remote OFF signal in the following ways:

A. Building Management System Control (BMS).



SmartCom³ controllers can be operated via a BMS system, by applying a volt free connection (ie closed circuit to enable) across terminals B1 and B0 turns the system on. Making this connection on a master controller will turn the entire system on whereas making this connection on a slave unit will only bring on that zone.

1. BMS Controlling Time only.

Ensure all the programmed ON times in the SmartCom³ are turned off (i.e. They read "- :- -").

2. BMS Controlling Time and Temperature.

Ensure all the programmed ON times in the SmartCom² are turned off (i.e. They read "- :- -"). Set all the required day temperatures to 30°C.

B. Remote Door Interlock



SmartCom³ controllers can be connect to a door interlock, remote frost stat or permanent off switch via terminals B2 and B0. When a volt free connection is provided (ie closed circuit to enable) at these terminals, the controller reverts to a FROST ONLY mode.

Refer to the individual wiring diagrams for wiring configurations and type.



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