ABOVEAIR TECHNOLOGIES	CONTROL WIRING DIAGRAM	CONTROL SEQUENCE	DRAWING NUMBER	DATE	ENGR	MGR	REVISION
		MC-4000N	C-J3-SAMPLE	08/02/2016	MCR	MAM	1.1

LEGEND

* FACTORY PROVIDED, FIELD WIRED
** BY OTHERS
^^ REFER TO DETAILS

TERMINAL
FIELD WIRING
FACTORY JUMPER OR AUX DEVICE
24V POWER
COMMON
24V CONTROL OUTPUT
24V CONTROL INPUT
ALARM/DRY CONTACT
SHIELDED CABLE

GENERAL CONTROL NOTES

- VDC SIGNALS ARE POLARITY SENSITIVE. FAILURE TO OBSERVE POLARITY MAY RESULT IN IMPROPER OPERATION AND DAMAGE TO SENSORS OR OTHER DEVICES.
- SENSOR CONNECTIONS SHOULD USE SHIELDED, MULTI-CORE CABLE WITH 3-5 CONDUCTORS. THE FOLLOWING WIRE SIZES ARE ACCEPTABLE:
  - UP TO 200': 20 AWG
  - 201' - 350': 18 AWG
  - 351' - 500': 16 AWG
- 24VAC AND COMMON TERMINALS CONNECTED VIA CENTRAL JUMPER.
- DISPLAY TERMINAL DOES NOT CONTAIN SENSORS. CABLE FOR CONNECTION IS PROVIDED BY THE FACTORY.
- ALL DEVICES ARE WIRED THROUGH NC CONTACTS AND ALARM ON LOSS OF 24VAC SIGNAL.
- FACTORY INSTALLED JUMPERS MUST REMAIN IN PLACE OR BE WIRED THROUGH THE INDICATED DEVICE.
- VALVES, SCR HEATERS, AND OTHER DEVICES MAY BE FACTORY MOUNTED OR FIELD WIRED. REFER TO YOUR SUBMITTAL FOR MORE INFORMATION.
- FIELD SUPPLIED DAMPERS, VALVES, SOLENOIDS, ETC. MAY NOT BE POWERED FROM UNITS TRANSFORMERS UNLESS SPECIFICALLY NOTED.

COMMON CONTROL ABBREVIATIONS

APS	AIR PROVING SWITCH
ASE	AIR SIDE ECONOMIZER
CC#	COMPRESSOR CONTACTOR 1,2,...
CNDC/R#	CONDENSER CONTACTOR/RELAY 1,2,...
CNDV	CONDENSER VALVE
COR	CONDENSATE OVERFLOW RELAY
CPS	CONDENSATE PAN SWITCH
CWV	CHILLED WATER VALVE
DER	DAMPER ENABLE RELAY
DFS	DIRTY FILTER SWITCH
DTS#	DISCHARGE TEMPERATURE SWITCH 1,2,...
DUS#	DIGITAL UNLOADER SOLENOID 1,2,...
EVPC/R	EVAPORATOR CONTACTOR/RELAY
FCS	FAN CYCLING SWITCH
FCV	FREECOOL VALVE
HGRV	HOT GAS REHEAT VALVE
HGS#	HOT GAS SOLENOID 1,2,...
HC/R#	HEATER CONTACTOR/RELAY 1,2,...
HUMC	HUMIDIFIER CONTACTOR
HPS#	HIGH PRESSURE SWITCH 1,2,...
HWV	HOT WATER VALVE
LLS#	LIQUID LINE SOLENOID 1,2,...
LPS#	LOW PRESSURE SWTICH 1,2,...
LSR	LIFE SAFETY RELAY
OHS	OVERHEAT SWITCH
REVV#	REVERSING VALVE SOLENOID 1,2,...
STV	STEAM VALVE
TRF#	TRANSFORMER 1,2,...
VFD	VARIABLE FREQUENCY DRIVE

(#) SPECIAL CONTROL NOTES

1. REMOTE STOP/START JUMPER. NC SWITCH MUST HAVE MINIMUM 75 VA RATING.
2. WATER LEAK DETECTOR POINT OF CONNECTION. REFER TO WATER LEAK DETECTOR WIRING IF DEVICE IS PROVIDED.
3. CONDENSATE PUMP OVERFLOW SWITCH POINT OF CONNECTION. REFER TO CONDENSATE PUMP WIRING IF DEVICE IS PROVIDED.
4. SMOKE DETECTOR POINT OF CONNECTION. REFER TO SMOKE DETECTOR WIRING IF DEVICE IS PROVIDED.
5. FIRESTAT POINT OF CONNECTION. REFER TO FIRESTAT WIRING IF DEVICE IS PROVIDED.
6. EVPR PROVIDED FOR CONNECTION TO OPTIONAL FIELD-INSTALLED VFD KIT.
7. DX UNITS INCLUDE STANDARD HIGH AND LOW PRESSURE SWITCHES FOR EACH CIRCUIT (OCCUPY 2 DIGITAL INPUTS PER CIRCUIT).
8. STANDARD MINIMUM TERMINAL CONFIGURATION: TERMINALS PROVIDED WILL VARY BASED ON UNIT CONFIGURATION.
9. LIFE SAFETY (FIRE/SMOKE ALARM) MAY ALTERNATELY BE ORDERED AS A DIGITAL INPUT TO THE CONTROLLER.

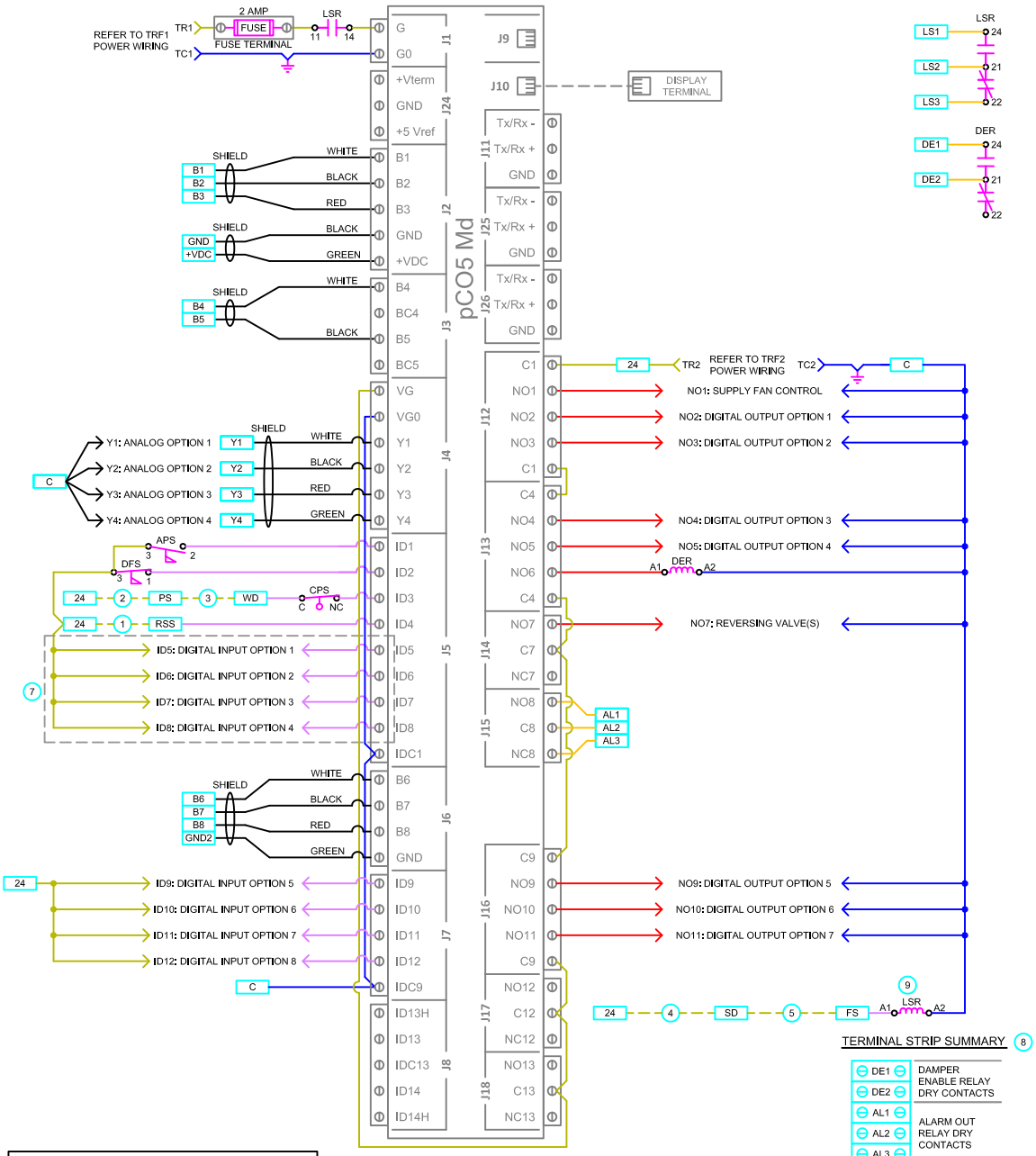
SENSOR LEGEND

DP-MA: MIXED AIR DEWPOINT (TEMPERATURE & HUMIDITY) SENSOR (NTC/4-20 mA).

T-SA: UNIT MOUNTED SUPPLY AIR TEMPERATURE SENSOR (NTC).

T-PH: POST HEAT TEMPERATURE SENSOR (NTC).

A TYPICAL CONTROLLER IS SHOWN HERE. FINAL CONTROLLER AND/OR EXPANSIONS INSTALLED IN YOUR UNIT WILL BE DETERMINED BASED ON THE FEATURES PURCHASED AND REQUIRED I/O CONNECTIONS. SPARE I/O FOR FEATURES NOT SPECIFIED ON THE SUBMITTAL AND FINAL PURCHASE ORDER PROVIDED TO ABOVEAIR MAY NOT BE AVAILABLE.



ADDITIONAL SENSOR OPTIONS

1. FREECOOL/CONDENSER WATER TEMPERATURE SENSOR
2. CO2 SENSOR
3. OUTDOOR AIR TEMPERATURE
4. HEAD PRESSURE
5. SUCTION PRESSURE

ANALOG (0-10 VDC) OUTPUT OPTIONS

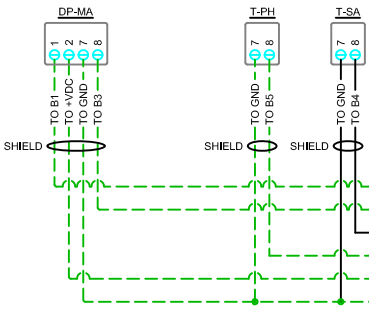
1. DIGITAL SCROLL COMPRESSOR
2. CHILLED WATER VALVE
3. HEAD PRESSURE CONTROL (COND VALVE OR FAN)
4. SCR ELECTRIC HEAT OR PREHEAT
5. HOT WATER OR STEAM HEAT OR PREHEAT
6. HOT GAS REHEAT
7. HUMIDIFIER
8. FREECOOLING VALVE (WATER SIDE ECONOMIZER)
9. AIRSIDE ECONOMIZER DAMPERS

DIGITAL INPUT OPTIONS

1. LIFE SAFETY ALARM (ALTERNATE CONNECTION)
2. DIFFERENTIAL PRESSURE WATER FLOW PROVING SWITCH
3. EVAPORATOR DAMPER END SWITCH
4. CONDENSER DAMPER OR VALVE END SWITCH
5. COMPRESSOR LOCKOUT
6. PUMP INTERLOCK
7. HEAT PUMP DEFROST THERMOSTAT

DIGITAL OUTPUT OPTIONS

1. COOL STAGES
2. HEAT STAGES
3. HOT GAS REHEAT
4. HUMIDIFIER
5. PREHEAT STAGE
6. FREECOOLING VALVE (WATER SIDE ECONOMIZER)
7. PUMP/CONDENSER VALVE ENABLE RELAY
8. DAMPER ENABLE RELAY
9. AUX FAN RELAY



TERMINAL STRIP SUMMARY (8)

DE1, DE2	DAMPER ENABLE RELAY DRY CONTACTS
AL1, AL2, AL3	ALARM OUT RELAY DRY CONTACTS
LS1, LS2, LS3	LIFE SAFETY RELAY DRY CONTACTS
24, 24, 24, 24, 24	24 VAC CONTACTS
RSS, PS, WD, SD, FS	AUXILIARY INPUT CONTACTS
C, C, C, C, C	COMMON CONTACTS
B1, B3, B4, B5	SENSOR CONTACTS
+VDC, GND, GND2	SENSOR +VDC POWER CONTACTS