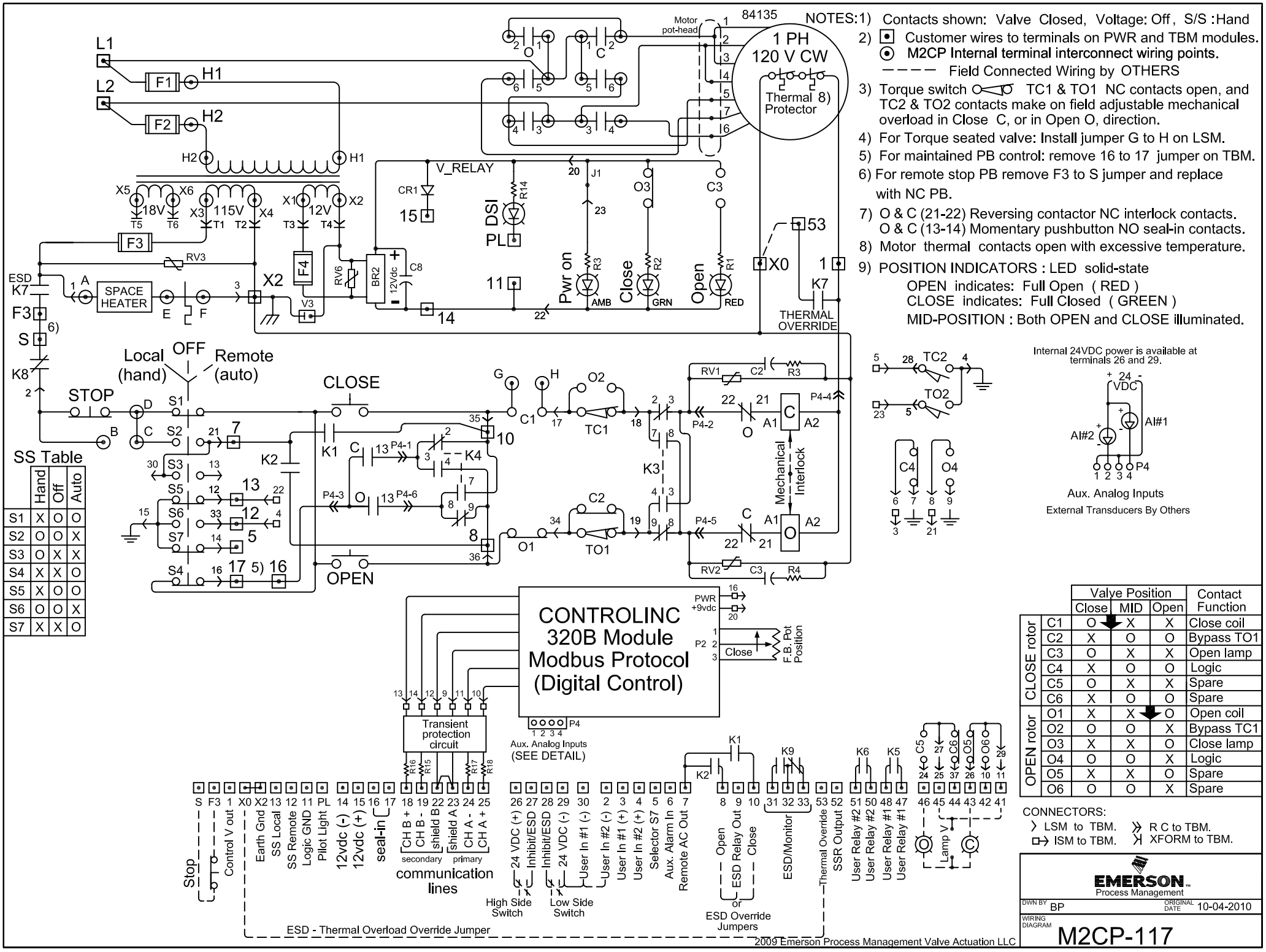
NOTES:1) Contacts shown: Valve Closed, Voltage: Off, S/S :Hand
2) Customer wires to terminals on PWR and TBM modules.
M2CP Internal terminal interconnect wiring points.
Field Connected Wiring by OTHERS
3) Torque switch TC1 & TO1 NC contacts open, and TC2 & TO2 contacts make on field adjustable mechanical overload in Close C, or in Open O, direction.
4) For Torque seated valve: Install jumper G to H on LSM.
5) For maintained PB control: remove 16 to 17 jumper on TBM.
6) For remote stop PB remove F3 to S jumper and replace with NC PB.
7) O & C (21-22) Reversing contactor NC interlock contacts.
O & C (13-14) Momentary pushbutton NO seal-in contacts.
8) Motor thermal contacts open with excessive temperature.
9) POSITION INDICATORS : LED solid-state
OPEN indicates: Full Open (RED)
CLOSE indicates: Full Closed (GREEN)
MID-POSITION : Both OPEN and CLOSE illuminated.
84135
1 PH
120 V CW
Thermal 8) Protector
Motor pot-head
L1
L2
F1
F2
H1
H2
X5
X6
X3
X4
X1
X2
18V
115V
12V
T5
T6
T1
T2
T3
T4
F3
RV3
F4
RV6
BR2
12Vdc
C8
V3
V_RELAY
CR1
15
DSI
R14
PL
11
14
J1
20
23
22
Pwr on
R3
AMB
Close
R2
GRN
Open
R1
RED
O3
C3
X0
53
1
K7
THERMAL OVERRIDE
ESD
K7
F3
S
K8
SPACE HEATER
A
E
F
X2
Local (hand)
OFF
Remote (auto)
STOP
CLOSE
OPEN
S1
S2
S3
S4
S5
S6
S7
K1
K2
K3
K4
TC1
TC2
TO1
TO2
O1
O2
C1
C2
RV1
RV2
C2
R3
C3
R4
P4-1
P4-2
P4-3
P4-4
P4-5
P4-6
A1
A2
Mechanical Interlock
C4
O4
Internal 24VDC power is available at terminals 26 and 29.
24 VDC
AI#1
AI#2
P4
Aux. Analog Inputs
External Transducers By Others
SS Table
Hand
Off
Auto
S1 X O O
S2 O O X
S3 O X X
S4 X X O
S5 X O O
S6 O O X
S7 X X O
CONTROLINC
320B Module
Modbus Protocol
(Digital Control)
PWR +9vdc
P2
Close
F.B. Pot Position
Transient protection circuit
Aux. Analog Inputs
(SEE DETAIL)
S F3 1 X0 X2 13 12 11 PL 14 15 16 17 18 19 22 23 24 25 26 27 28 29 30 2 3 4 5 6 7 8 9 10 31 32 33 53 52 51 50 48 47 46 45 44 43 42 41
Stop
Control V out
Earth Gnd
SS Local
SS Remote
Logic GND
Pilot Light
12vdc (-)
12vdc (+)
seal-in
CH B +
CH B -
shield B
shield A
CH A -
CH A +
secondary
primary
communication lines
24 VDC (+)
Inhibit/ESD
Inhibit/ESD
24 VDC (-)
User In #1 (-)
User In #2 (-)
User In #1 (+)
User In #2 (+)
Selector S7
Aux. Alarm In
Remote AC Out
High Side Switch
Low Side Switch
Open
ESD Relay Out
Close
or
ESD Override Jumpers
ESD/Monitor
Thermal Override
SSR Output
User Relay #2
User Relay #2
User Relay #1
User Relay #1
Lamp V
ESD - Thermal Overload Override Jumper
2009 Emerson Process Management Valve Actuation LLC
Valve Position
Close
MID
Open
Contact Function
CLOSE rotor
C1 O X X Close coil
C2 X O X Bypass TO1
C3 O X X Open lamp
C4 X O O Logic
C5 O X X Spare
C6 X O O Spare
OPEN rotor
O1 X X O Open coil
O2 O O X Bypass TC1
O3 X X O Close lamp
O4 O O X Logic
O5 X X O Spare
O6 O O X Spare
CONNECTORS:
LSM to TBM.
ISM to TBM.
R C to TBM.
XFORM to TBM.
EMERSON
Process Management
DWN BY BP
ORIGINAL DATE 10-04-2010
WIRING DIAGRAM
M2CP-117