

# SAVVY 4

## CIU MOTOR MONITORING CONTROL PANEL



### SAVVY 4 CONTROL PANEL

The SAVVY 4 pump motor status monitor and controller panel is designed for use with all GAS MASTRRR series 32 and 32PT submersible units and INTRUDRRR series 35F inline mixers.

The SAVVY 4 panel is Nema 4X rated with a non-metallic FRP enclosure for indoor/outdoor service.

Components include a fused disconnect switch, CPT, motor monitor with display, combination starter with adjustable amperage trip heaters, run, off and alarm status lamps, HOA switch, mechanical run time hour meter, and lightning surge arrester. Motor monitoring features include high/low voltage, voltage/current unbalance, phase loss or reversal, over/under current, rapid cycling, and include programmable time delay restarts.

The display keypad supplies realtime data on motor amperage, voltage, % unbalance and data-logging of last four fault conditions. Fault data-logging includes: Date, time, fault condition, amperages, voltages and stop/off/start time.

The panels are wired for three phase service with a variety of voltage options from 200-575 VAC. For series 32XP x-proof motor applications the panels include seal failure moisture detection and high temperature indication and control. Optional audible/visual alarms available. The panels are tested, programmed and ready for service with your CIU.


#### FEATURES:

- \* NEMA 4X FRP enclosure with clear window and fused disconnect switch for operator safety.
- \* High/low voltage, over/under current, phase unbalance or reversal.
- \* External motor run-time hour meter (mechanical).
- \* Terminal blocks for remote indication and control.
- \* Programmable time delay restarts.
- \* Data-logging of last four fault conditions with voltage and amperage fault information.
- \* Realtime display of amperage and voltage on all legs.



Optional UL Listed quick power cord disconnects and PT-100/SOLO motor high temperature systems.





**SYMCOM 777-P2  
& RM-2000**

**MOTOR MONITOR PROGRAMMABLE FUNCTIONS:**

1) Low Voltage Set Point	13) RS485 Address
2) High Voltage Set Point	14) No. of restarts after an underload fault
3) Voltage Unbalance Set Point	15) Underload Trip Delay
4) Amp Range Setting	16) Ground Fault Trip Point
5) Overcurrent Trip Point	
6) Undercurrent Trip Point	
7) Current Unbalance Trip Point	
8) Trip Class (5, 10, 15, 20, 30)	
9) Rapid Cycle Timer (Rd1)	
10) Overload Restart Delay (Rd2)	
11) Underload Restart Delay (Rd3)	
12) No. of restarts after an overload (Manual or Automatic)	



# SAVVY 4 - CONTROL PANEL - FUNCTIONAL DESCRIPTION



## OPERATION

WITH MAIN CIRCUIT BREAKER ON, POWER NORMAL, UNIT SUBMERGED, TURNING H-O-A SWITCH TO HAND STARTS SUBMERSIBLE MOTOR. TURNING H-O-A SWITCH TO AUTO (WITH JUMPER INSTALLED ON TERMINAL BLOCKS #6 & #7 OR REMOTE PLC CONTACT CLOSURE) STARTS SUBMERSIBLE MOTOR.

## IN "HAND OR AUTO" POSITION

SHOULD SYMCOM 777-P2 DETECT ABNORMAL

1. HIGH, LOW OR UNBALANCED MOTOR VOLTAGE BEFORE START
2. HIGH, LOW OR UNBALANCED MOTOR AMPERAGE AFTER START
3. PHASE REVERSAL BEFORE START
4. PHASE LOSS BEFORE OR AFTER START
5. RAPID CYCLING
6. GROUND FAULT

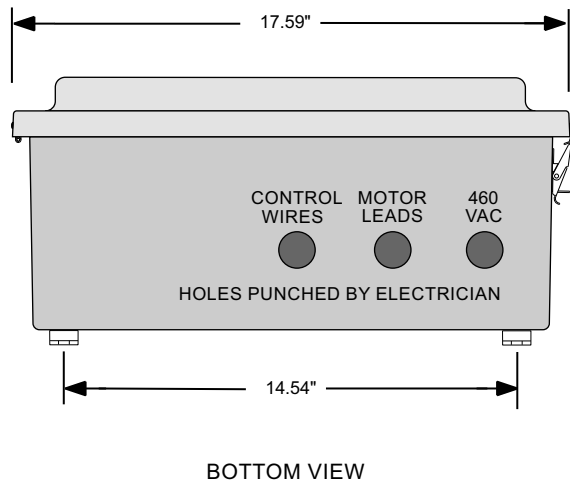
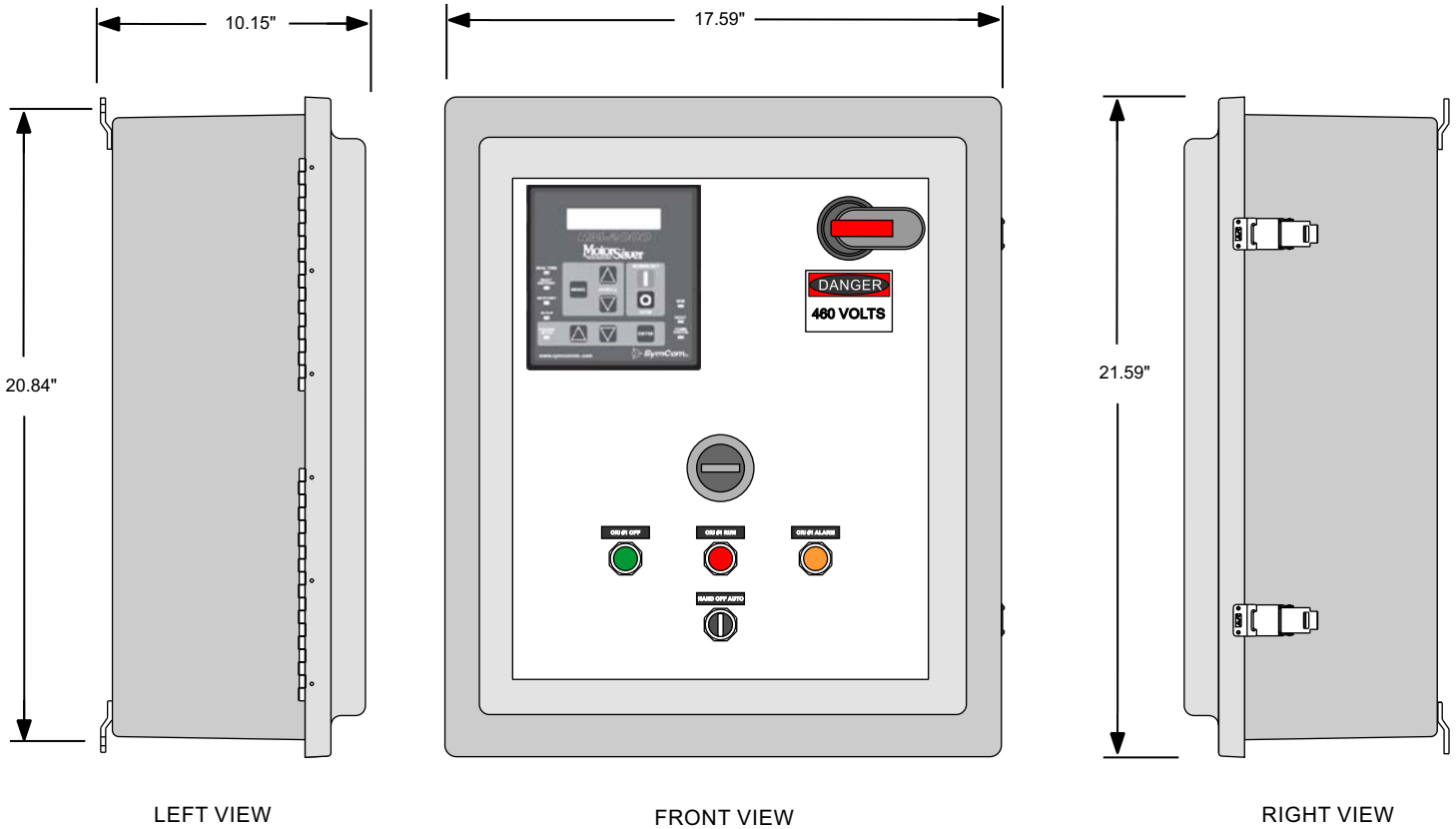
CONTACT 777-P2 OR OLS (STARTER OVERLOADS) OPEN, DE-ENERGIZING STARTER, STOPPING CIU MOTOR AND INDICATING ALARM

## INDICATION LIGHTS

OFF INDICATION  
RUN INDICATION  
ALARM INDICATION  
MOTOR RUN TIME TOTAL  
RM-2000 MOTOR INFO  
AUTO-SENSORY STATUS

JOB NAME:	
DESCRIPTION: SAVVY 4 FUNCTIONAL DESCRIPTION	
DATE: 2018	SHEET NO: 1
THE MASTRRR COMPANY FRIENDSWOOD, TEXAS (800-299-6836)	FILE NO: SAVVY 4-1

# SAVVY 4 - CONTROL PANEL DIMENSIONS

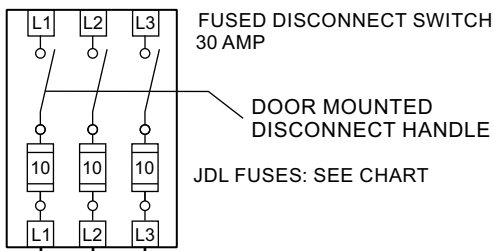


LEGEND PLATE SCHEDULE			
TAG	DESC1	DESC2	SIZE
01	CIU	OFF	2" X 1/2"
02	CIU	RUN	2" X 1/2"
03	FAULT	ALARM	2" X 1/2"
04	SWITCH	H O A	2" X 1/2"

SAVVY 4 PANEL WEIGHT 45 LBS.

JOB NAME:	
DESCRIPTION: SAVVY 4 CONTROL PANEL DIMENSIONS	
DATE: 2018	SHEET NO: 2
THE MASTRRR COMPANY FRIENDSWOOD, TEXAS (800)-299-6836	FILE NO: SAVVY 4-1

**SUPPLY POWER**  
460 VAC, 3 PHASE

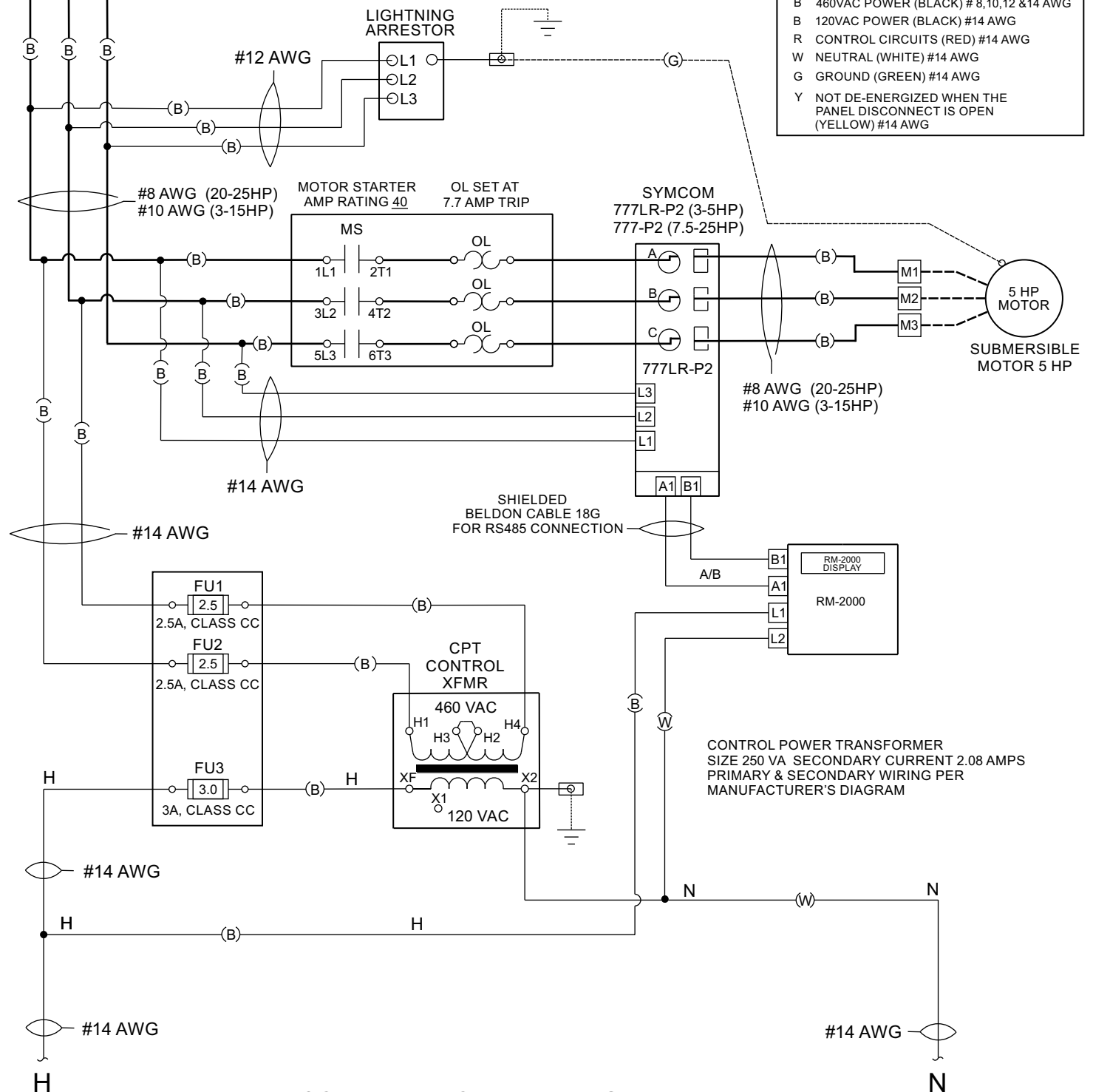


HP	DISCONNECT FUSE SIZE	JDL TIME DELAY	STARTER OL AMP SETTING	SYMCOM 777-P2 # OF LOOPS
2	5		3.8	1 (777LR-P2)
3	10		7.7	1 (777LR-P2)
5	10		7.7	1 (777LR-P2)
7.5	15		11.5	3 (777-P2)
10	20		15	2 (777-P2)
15	30		22	2 (777-P2)
20	35		28	1 (777-P2)
25	45		35	1 (777-P2)

▲ = REMOTE MOUNTED FROM SAVVY PANEL

**WIRE COLORS / #AWG**

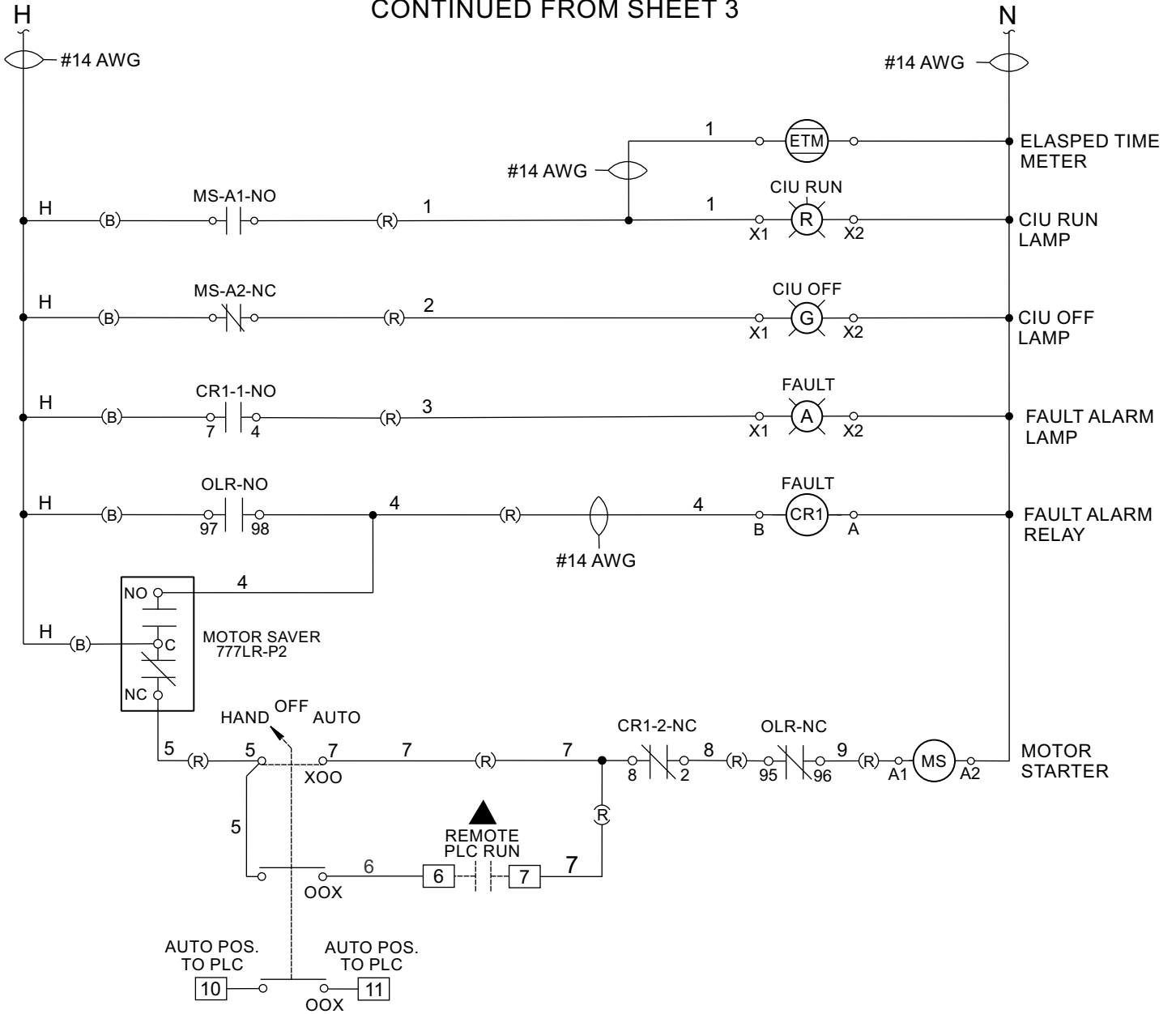
- B 460VAC POWER (BLACK) # 8,10,12 & 14 AWG
- B 120VAC POWER (BLACK) #14 AWG
- R CONTROL CIRCUITS (RED) #14 AWG
- W NEUTRAL (WHITE) #14 AWG
- G GROUND (GREEN) #14 AWG
- Y NOT DE-ENERGIZED WHEN THE PANEL DISCONNECT IS OPEN (YELLOW) #14 AWG



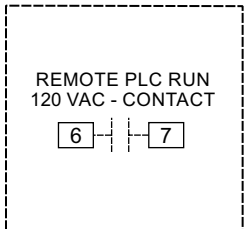
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JOB NAME:	
DESCRIPTION: SAVVY 4 CONTROL PANEL WIRE DIAGRAM	
DATE: 2018	SHEET NO: 3
THE MASTRRR COMPANY FRIENDSWOOD, TEXAS (800-299-6836)	FILE NO: SAVVY 4-1

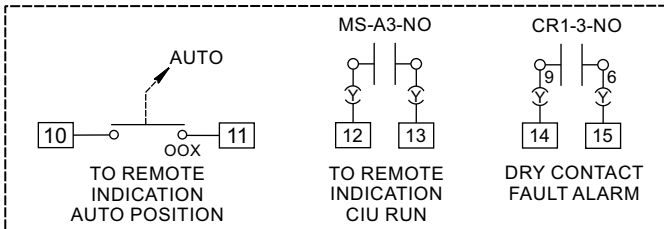
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INPUTS



DRY CONTACT OUTPUTS



TB1

6	7	10	11	12	13	14	15			
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TERMINAL BLOCK SCHEDULE  
TORQUE FIELD WIRING  
TERMINAL TO 7.1 INCH Lb.

TB2 - TERMINAL BLOCK SCHEDULE

M1	MOTOR LEAD 460 VAC
M2	MOTOR LEAD 460 VAC
M3	MOTOR LEAD 460 VAC
	MOTOR LEAD GROUND (GREEN)

**▲** = REMOTE MOUNTED FROM SAVVY 4 PANEL

WIRE COLORS / #AWG  
 B 460VAC POWER (BLACK) # 8,10,12 & 14 AWG  
 B 120VAC POWER (BLACK) #14 AWG  
 R CONTROL CIRCUITS (RED) #14 AWG  
 W NEUTRAL (WHITE) #14 AWG  
 G GROUND (GREEN) #14 AWG  
 Y NOT DE-ENERGIZED WHEN THE PANEL DISCONNECT IS OPEN (YELLOW) #14 AWG

JOB NAME:	
DESCRIPTION: SAVVY 4 CONTROL PANEL WIRE DIAGRAM	
DATE: 2018	SHEET NO: 3A
THE MASTRRR COMPANY FRIENDSWOOD, TEXAS (800-299-6836)	FILE NO: SAVVY 4-1