

P & I Design Ltd

Process Instrumentation Consultancy & Design

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Web Site: www.pidesign.co.uk

INTER TERMINALS IMMINGHAM LTD

WEST TERMINAL

No.8A SWITCHROOM

MOTOR CONTROL CENTRE

DOCUMENTATION MANUAL

Rev	Date	By	Checked	Approved	Description	Client Ref.
A	28.05.14	D. Smith	MM	MM	Original Issue	
B	12.03.15	D. Smith	MM	MM	ESD Project SI432 Update	Document No.
C	30.06.16	D. Smith	MM	MM	General Update	SI400002_MNL
						Page 1 of 4

IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

Contents

1. Register Control System
2. Generic
3. Marshalling & Communications
4. MCC1
5. MCC2



Section 1
Register Control System



Register Control System

<u>Register No</u>	<u>Description</u>	<u>Issue</u>
SI400007_REG	Drawing Register	C



Section 2

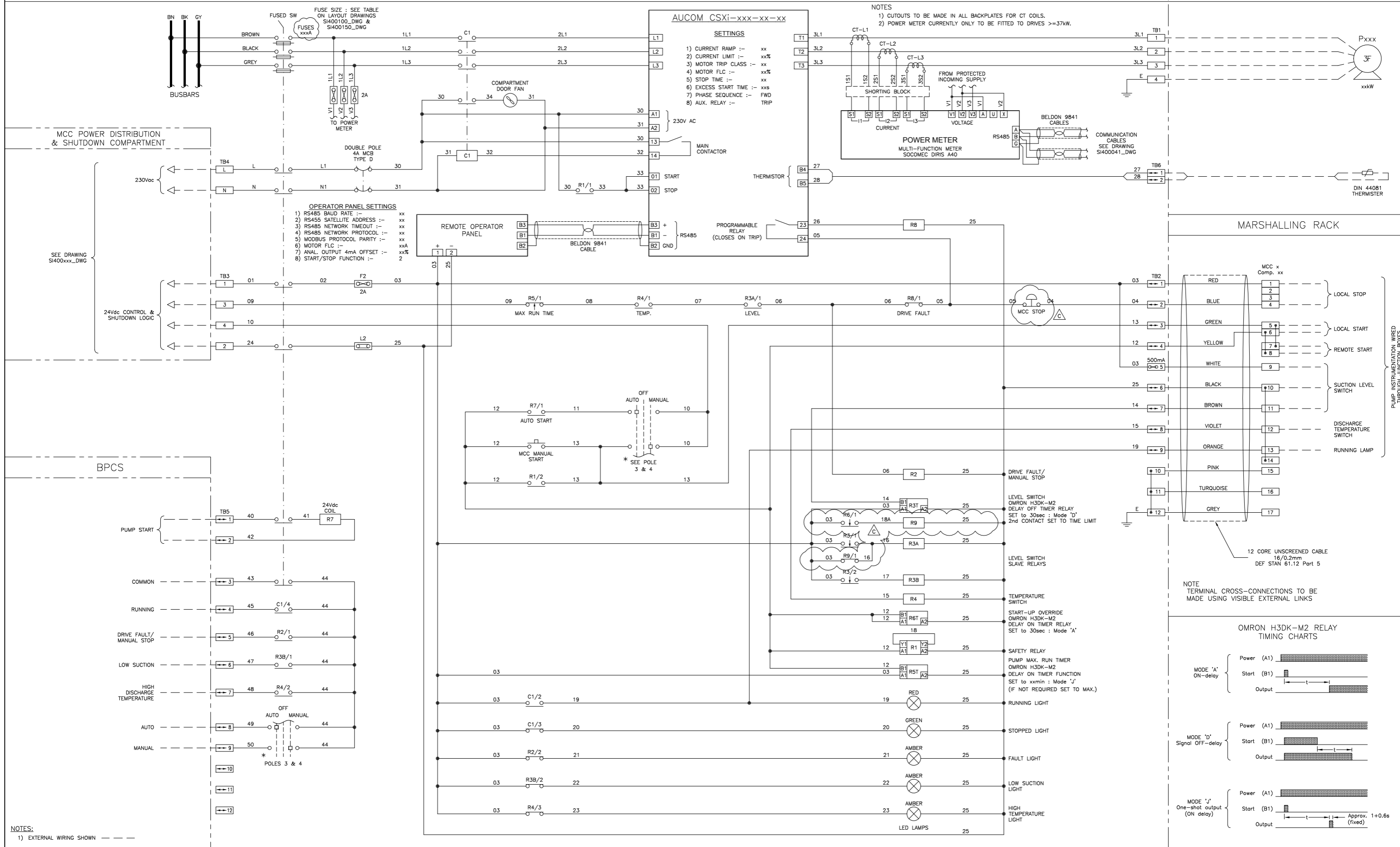
Generic



No.8A SWITCHROOM

MCC COMPARTMENT

FIELD



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:

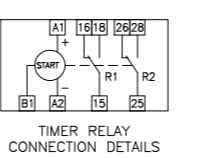
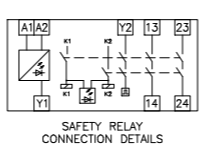
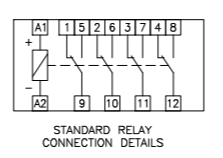
COLOURS:	SIZE:
3Φ - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:

TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WTR2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

RELAYS:

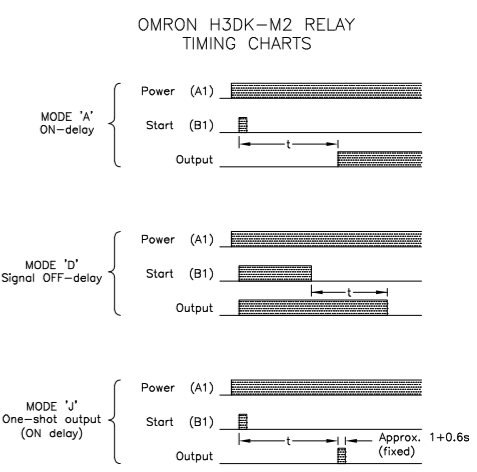
- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYP 94.74.0
- TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	16/02/11	P.P.	P.P.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F.	D.A.Y.	M.M.	M.M.	FAT UPDATE

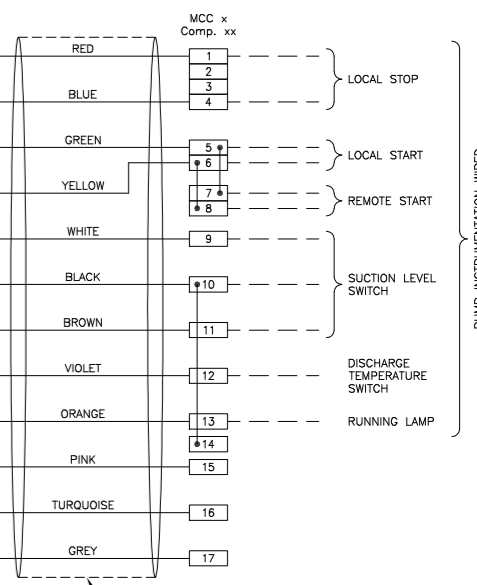
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM GENERIC SOFT START COMPARTMENT WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400030_DWG



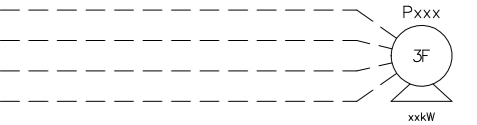
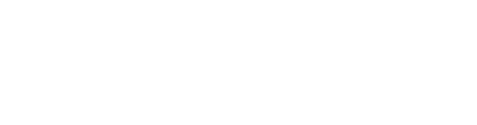
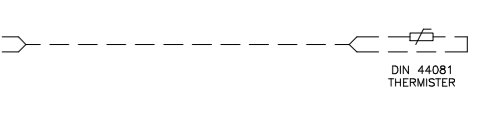
NOTE
TERMINAL CROSS-CONNECTIONS TO BE MADE USING VISIBLE EXTERNAL LINKS

12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

PUMP INSTRUMENTATION WIRING THROUGH JUNCTION BOXES

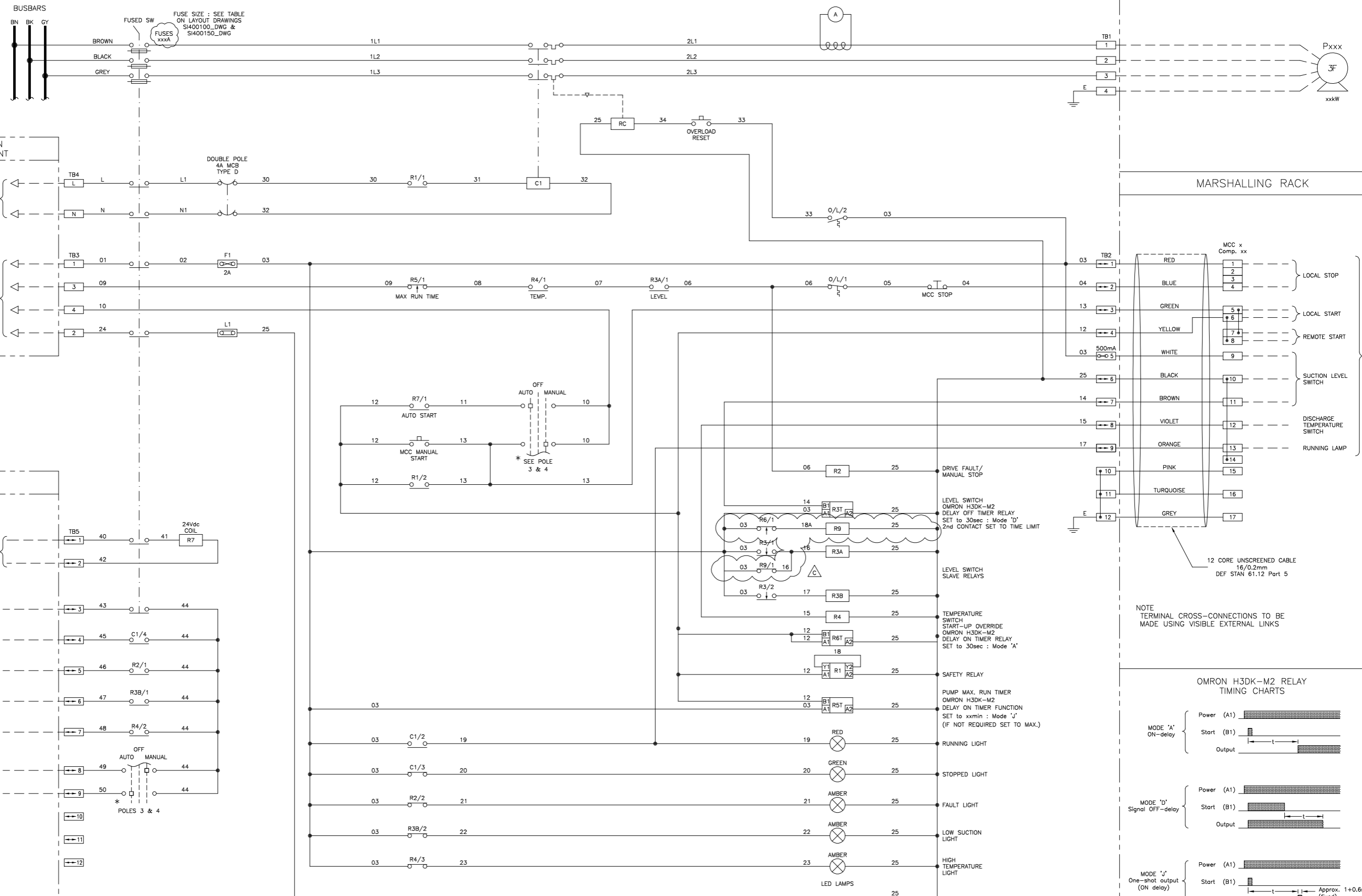


MARSHALLING RACK



No.8A SWITCHROOM
MCC COMPARTMENT

FIELD



MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT

230Vac

24Vdc CONTROL & SHUTDOWN LOGIC

BPCS

PUMP START

COMMON

RUNNING

DRIVE FAULT/
MANUAL STOP

LOW SUCTION

HIGH DISCHARGE
TEMPERATURE

AUTO

MANUAL

POLES 3 & 4

NOTES:
1) EXTERNAL WIRING SHOWN - - - -

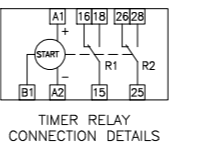
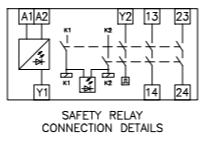
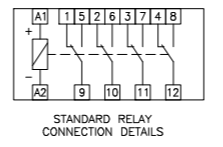
CABLE:
COLOURS:
3F - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

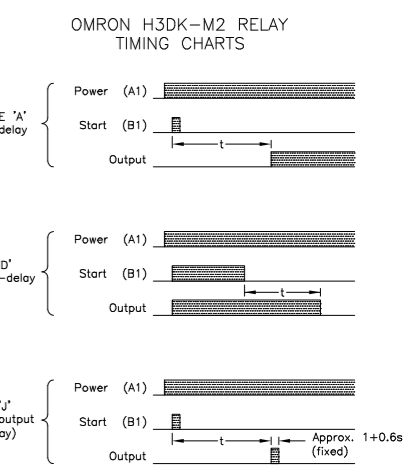
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE/55.34.9.024.0.0094
BASE :-
FINDER TYPE/94.74.0

2) TIMER RELAY :- OMRON H3DE-M2



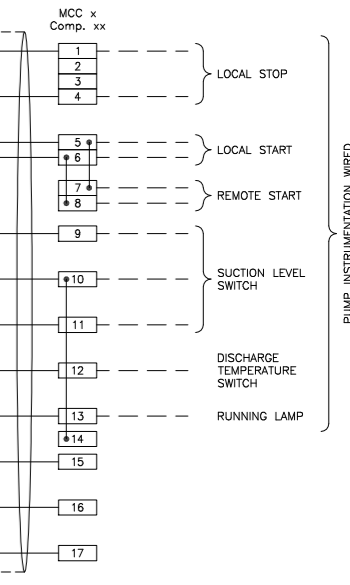
IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

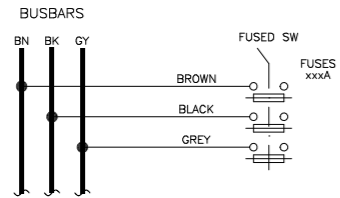
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	16/02/11	P.P.	P.P.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F.	D.A.Y.	M.M.	M.M.	FAT UPDATE



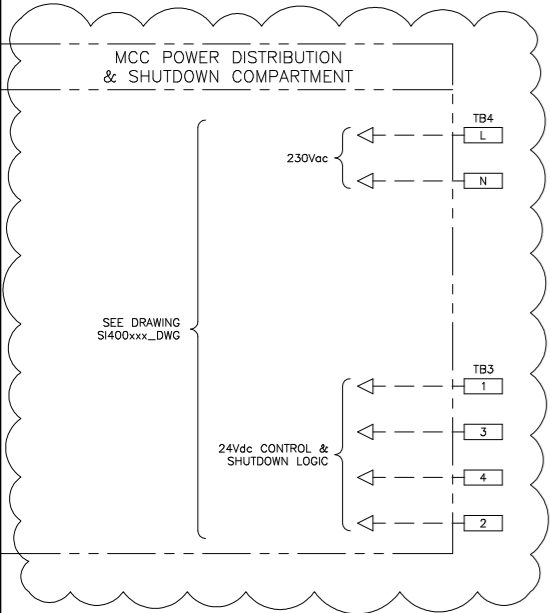
NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

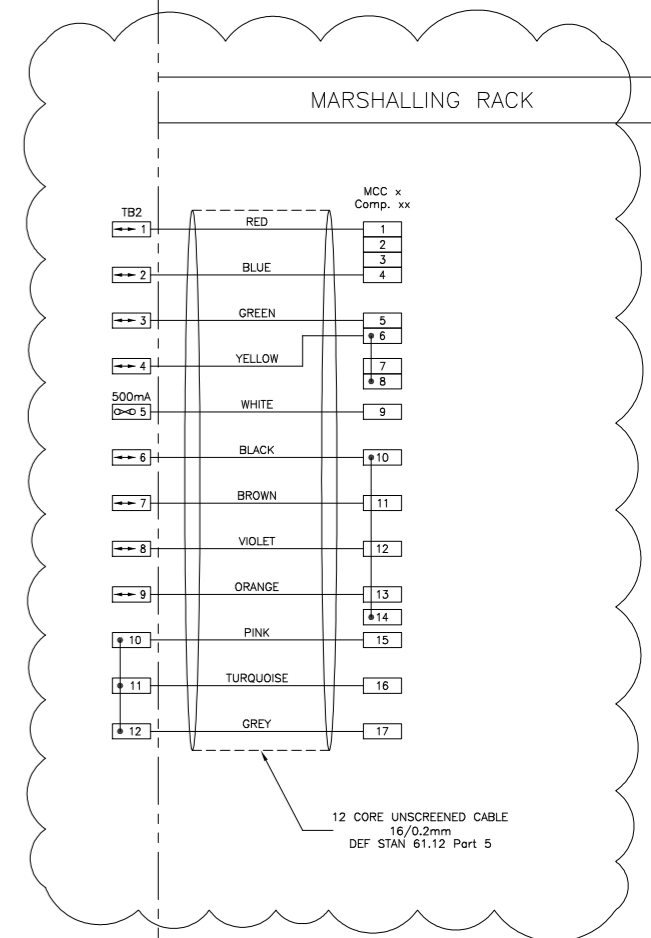




FUSE SIZE : SEE TABLE ON LAYOUT DRAWINGS S1400100_DWG & S1400150_DWG



⚠



⚠

CABLE:

COLOURS:	SIZE:
3 ϕ - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

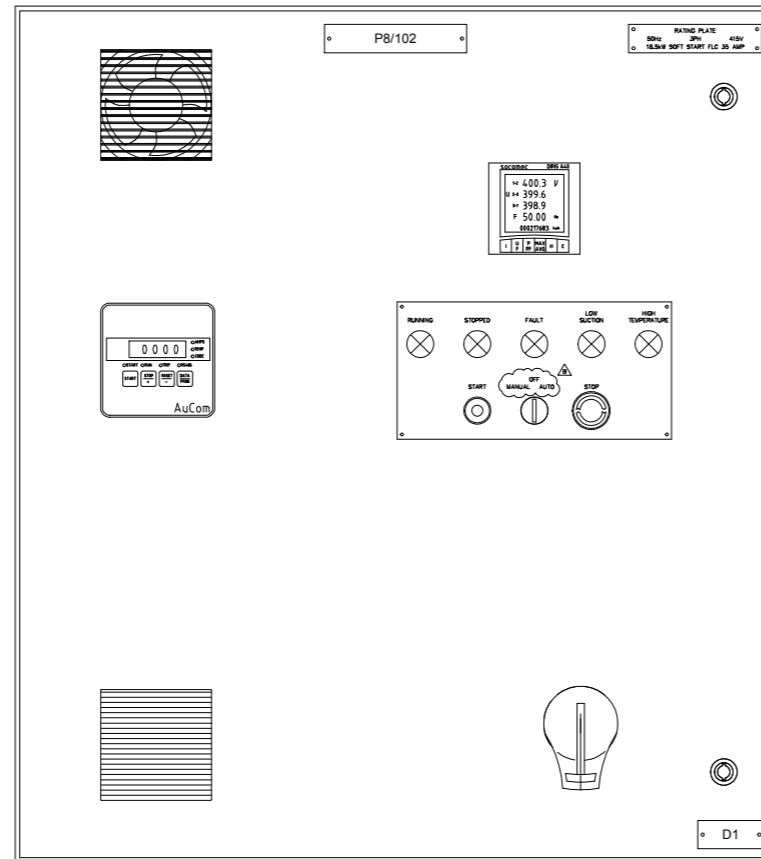


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A	16/02/11	P.P.	P.P.	M.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	FAT UPDATE

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM GENERIC FUSE ISOLATOR COMPARTMENT WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. S1400032_DWG

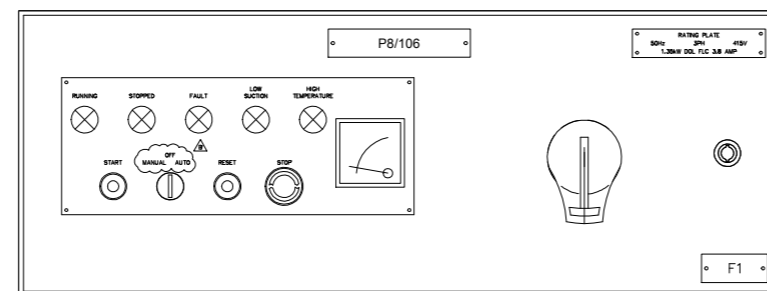




TYPICAL SOFT STARTER

NOTE

ENSURE THE INDICATOR LAMP SEQUENCE IS AS SHOWN AND THAT BOTH THE SOFT START & DOL COMPARTMENTS ARE IDENTICAL.



TYPICAL DOL STARTER

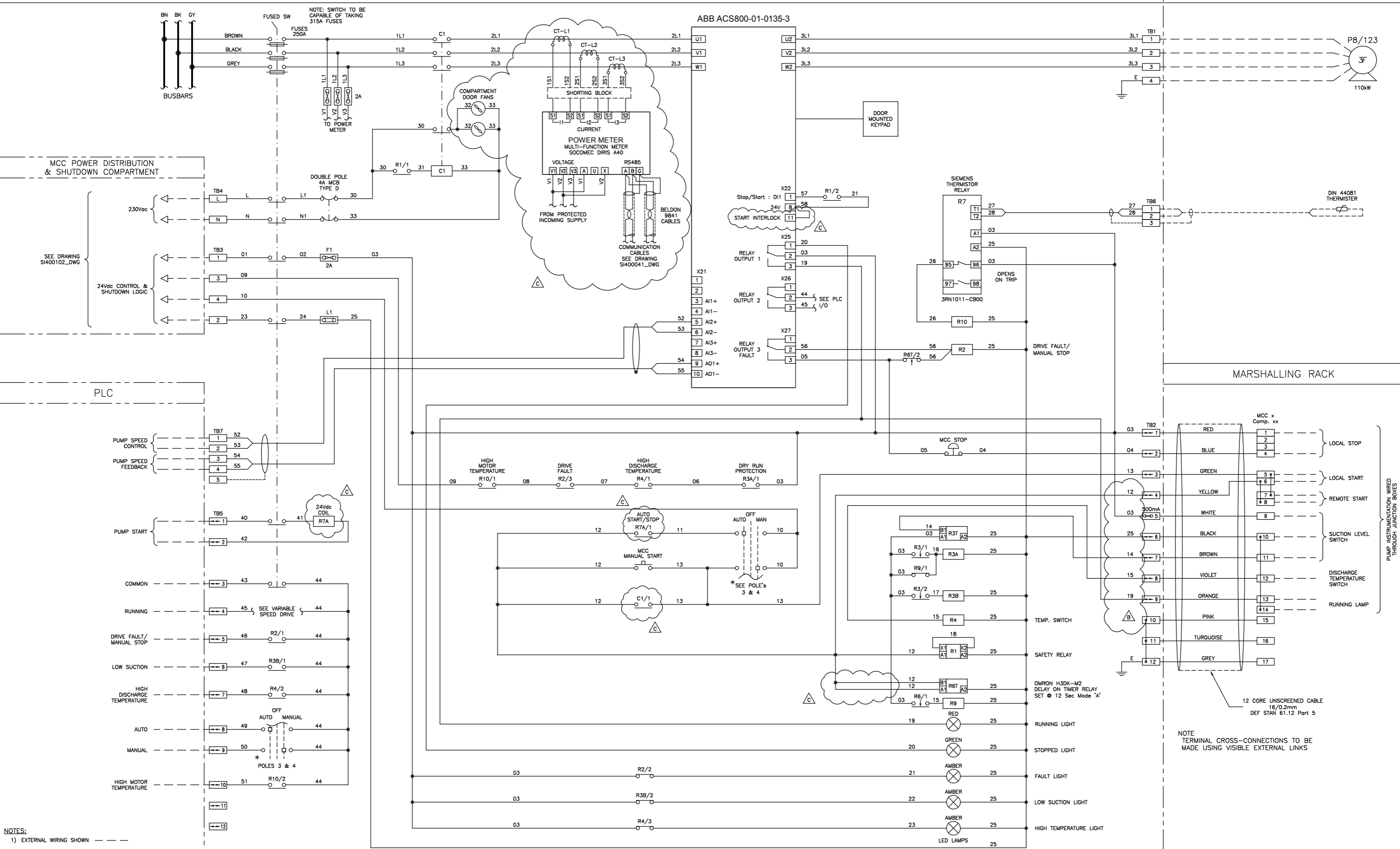
NO DRAWING CHANGES

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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	
A	16/02/11	P.P.	P.P.	M.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.		FAT UPDATE



PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM MCC TYPICAL DOOR ARRANGEMENTS
	IMMINGHAM STORAGE Co. Ltd, IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, SOUTH HUMBERSIDE DN40 2PD P & I Design Ltd Tel. 01642 617444 www.pidesign.co.uk
	SHEET 1 OF 1
CLIENT DRG. No.	P&I DRG No. S1400033_DWG

MCC1 - COMPARTMENT I1



NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE:
COLOURS:
3Φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE

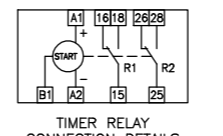
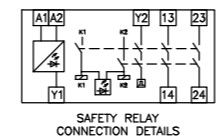
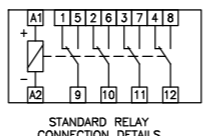
SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²

TERMINALS:

- TB1 - TO SUIT OUTCOMING TAILS
- TB2 - Weidmuller WS6, WTR2.5 & WDU2.5
- TB3 - Weidmuller WDU2.5
- TB4 - Weidmuller WDU2.5 Shrouded
- TB5 - Weidmuller WTR2.5
- TB6 - Weidmuller WTR2.5
- TB7 - Weidmuller WDU2.5

RELAYS:

- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0940
BASE :-
FINDER TYPE 94.04.0
- TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	09/09/11	P.P.	P.P.	D.B.F	D.B.F	M.M. M.M. ISSUED FOR CONSTRUCTION
B	13/09/11	P.P.	P.P.	D.B.F	D.B.F	M.M. M.M. REVISED CONSTRUCTION ISSUE
C	04/11/11	M.M.	P.P.	D.B.F	M.M.	POST FAT UPDATE

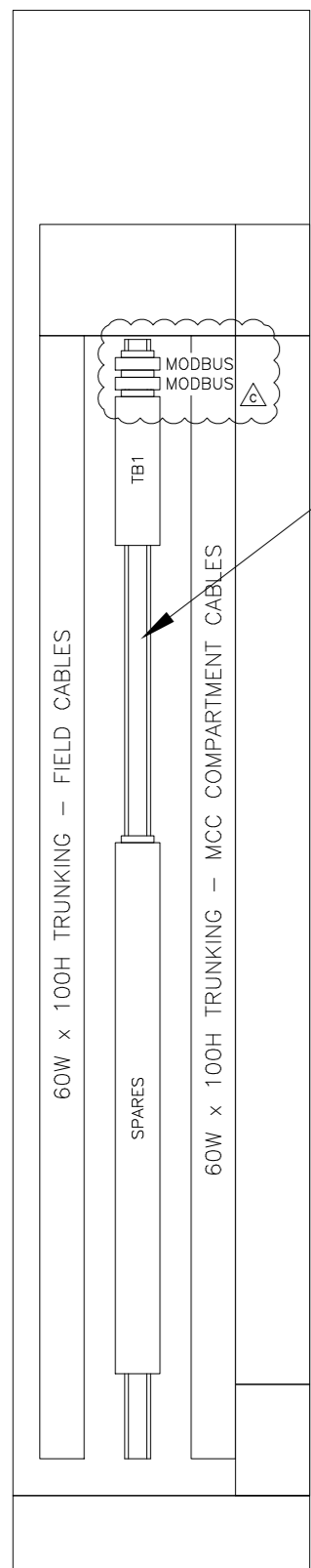
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	MITSUI ETHANOL STORAGE VSD
CLIENT DRG. No.	P&I DRG No. SI40035_DWG

NOTE: TERMINAL CROSS-CONNECTIONS TO BE MADE USING VISIBLE EXTERNAL LINKS

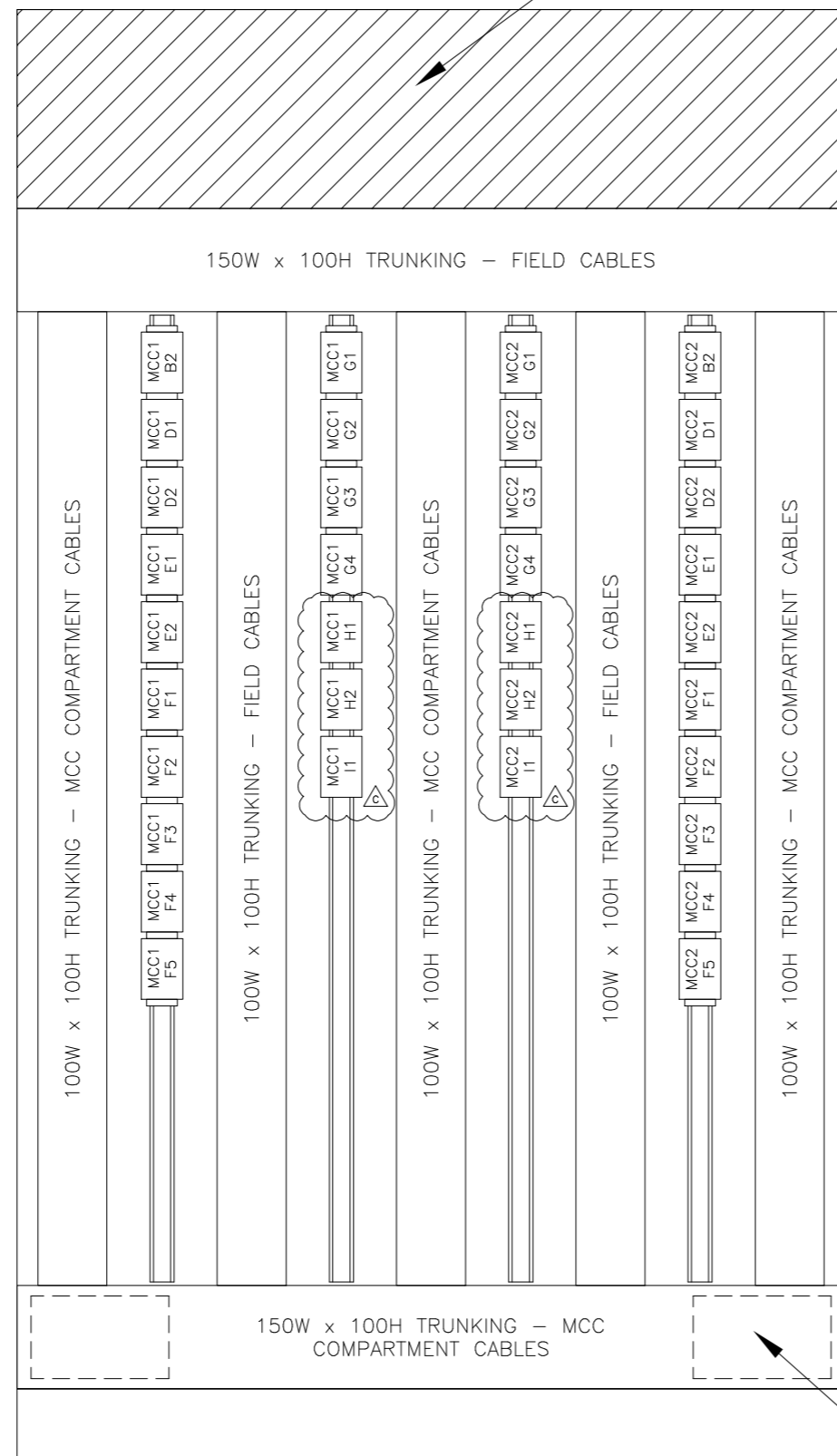
12 CORE UNSCREENED CABLE 16/0.2mm DEF STAN 61.12 Part 5

Section 3
Marshalling & Communications

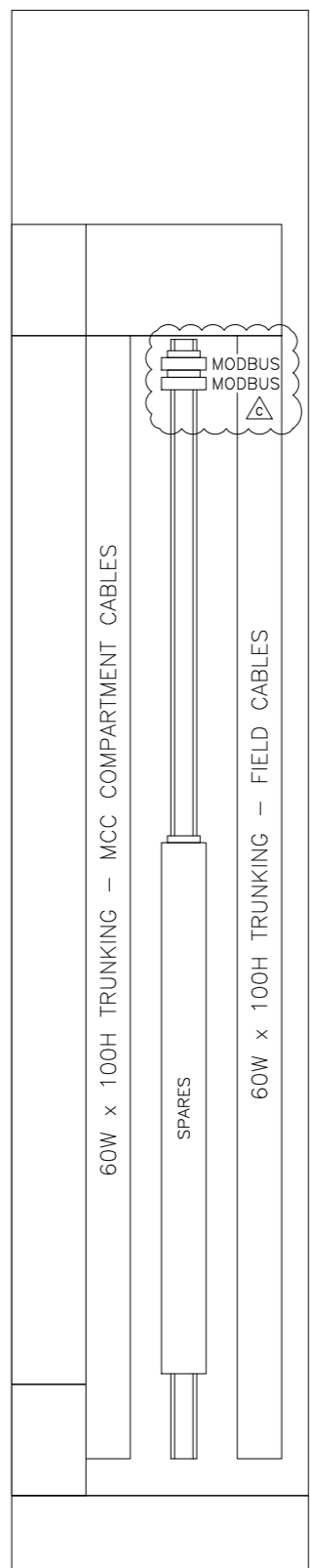




VIEW ON ARROW A-A

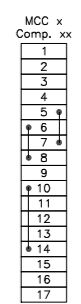


VIEW ON BACK PLATE



NOTES

- 1) RAIL TO BE LEFT SPARE FOR MCC1 FUTURE COMPARTMENT FIELD TERMINALS.
- 2) RAIL TO BE LEFT SPARE FOR MCC2 FUTURE COMPARTMENT FIELD TERMINALS.
- 3) TB1 : 40-off WDU2.5 TERMINALS
- 4) SPARES : 140-off WPE2.5 EARTH TERMINALS
- 5) MODBUS : 3-off WDU2.5 TERMINALS



TYPICAL TERMINAL BLOCK ARRANGEMENT



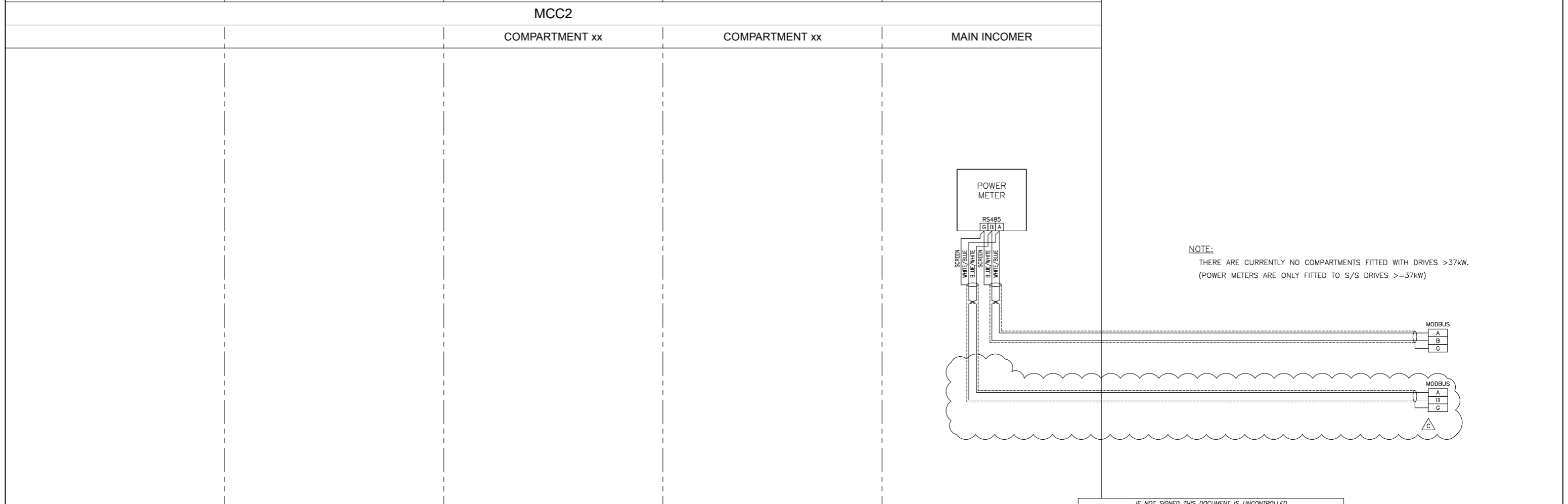
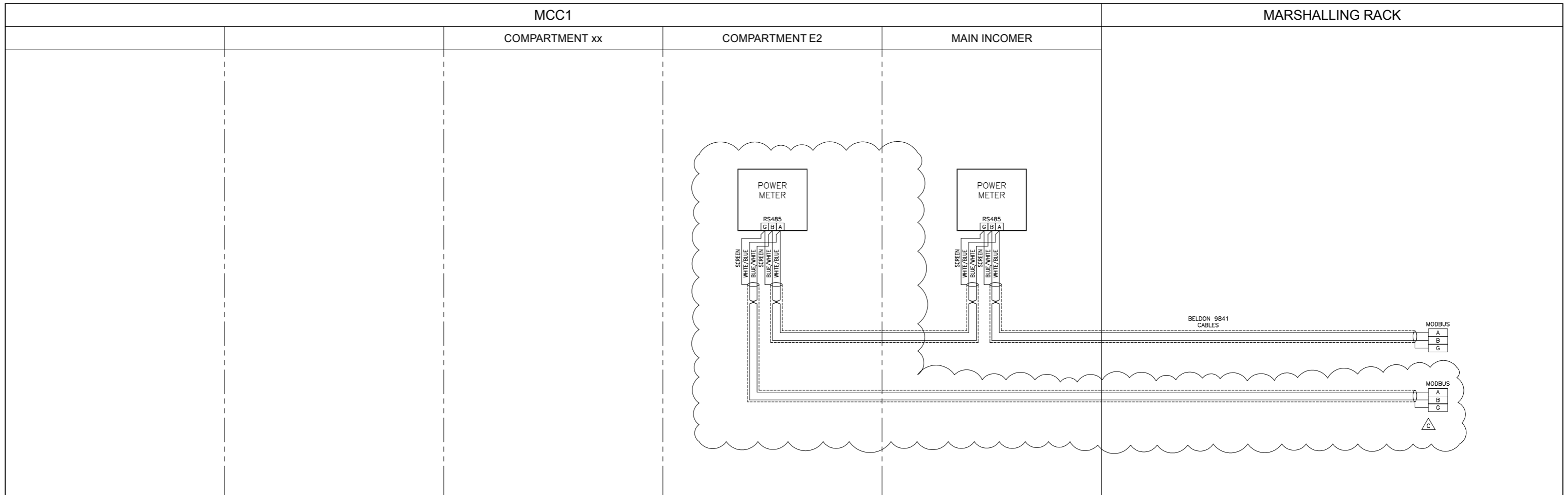
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A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC MARSHALLING PANEL LAYOUT
CLIENT DRG. No.	P&I DRG No. SI400040_DWG



P & I Design Ltd
Tel. 01642 617444
www.pidesign.co.uk



NOTE:
 THERE ARE CURRENTLY NO COMPARTMENTS FITTED WITH DRIVES >37kW.
 (POWER METERS ARE ONLY FITTED TO S/S DRIVES >=37kW)

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A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE

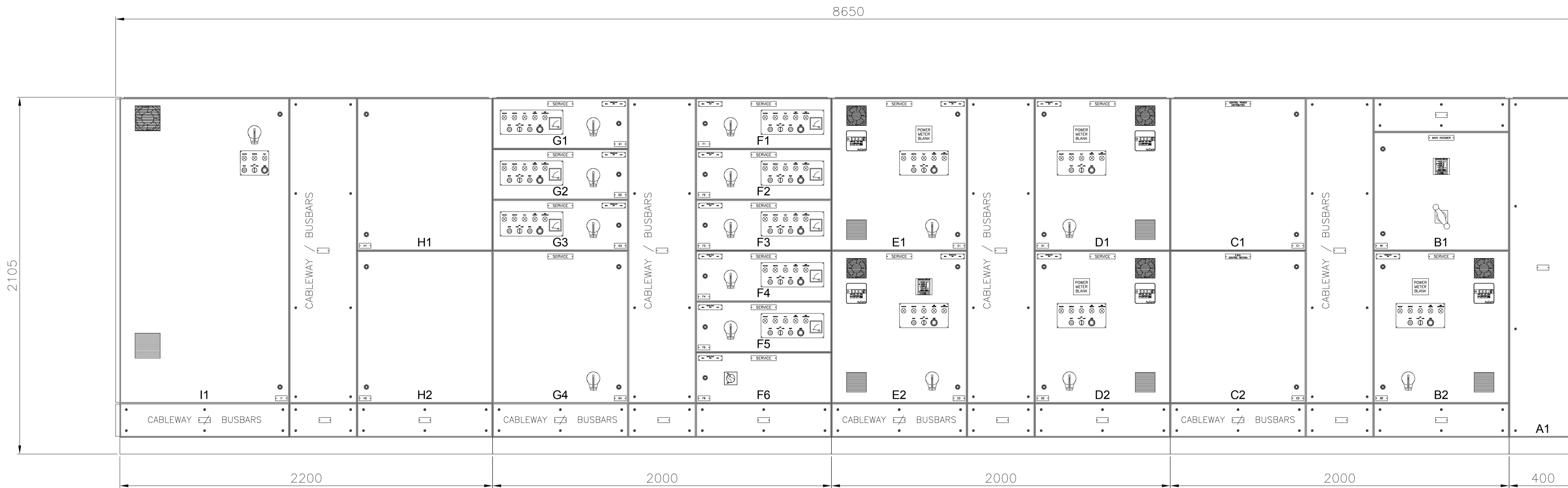
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM MCC MODBUS COMMUNICATIONS WIRING DETAIL
CLIENT DRG. No.	P&I DRG No. SI400041_DWG



Section 4

MCC1





PAIN'T FINISH	GREY TO RAL 7035
LABELS	W/B/W TRAFFOLITE
PROTECTION	IP54
CLASSIFICATION	FORM 4
	TYPE 2
BOARD ACCESS	FRONT
CABLE INCOMING	TOP ENTRY
	SIZE: T.B.C.
	TYPE: T.B.C.
CABLE OUTGOING	TOP EXIT
INCOMING GLAND PLATE	ALUMINIUM
OUTGOING GLAND PLATE	ALUMINIUM
MAINS SUPPLY	433V 50Hz TP&N
CONTROL SUPPLY	230/400V
FAULT RATING	50kA/1sec
BUSBARS	UNTINNED
BUSBARS (HORIZONTAL)	FROM FRONT N, L1, L2, L3
	RATING 800A
BUSBARS (RISERS)	FROM FRONT N, L1, L2, L3
	RATING 800A
EARTH BAR	INTERNAL
NEUTRAL BAR	INTERNAL
NEUTRAL / EARTH	REMOTE
EXTENDABLE	LHS ONLY
LOCKS	
KEY No.	

REF	SERVICE	DRIVE REF.	RATING	COMPARTMENT WIRING DIAGRAMS
A1	MARSHALLING SECTION			
B1	MAIN INCOMER		630A	SI400101_DWG
B2	GANTRY 17 OFFLOADING PUMP	P8/122	22kW S/S	SI400109_DWG
C1	CONTROL POWER 24Vdc DISTRIBUTION			SI400102_DWG
C2	ESD			SI400103_DWG
D1	GREENENERGY OFFLOADING PUMP	P8/102	30kW S/S	SI400110_DWG
D2	GREENENERGY OFFLOADING PUMP	P8/103	30kW S/S	SI400111_DWG
E1	GANTRY 22 OFFLOADING PUMP	P8/120	15kW S/S	SI400112_DWG
E2	T27/T28 ROAD LOADING PUMP	P8/121	37kW S/S	SI400113_DWG
F1	GANTRY 8 WATER PUMP	P8/106	7.5kW DOL	SI400114_DWG
F2	ALLOCATED TO IS	P8/107	11kW DOL	SI400115_DWG
F3	S4 SUMP PUMP	P8/108	1.1kW DOL	SI400116_DWG
F4	S8 SUMP PUMP	P8/113	1.1kW DOL	SI400117_DWG
F5	TANK 36 LOADING PUMP	P8/119	11kW DOL	SI400118_DWG
F6	FEED TO DISTRIBUTION BOARD		160/125A	SI400119_DWG
G1	TANK 33 LOADING PUMP	P8/101	11kW DOL	SI400120_DWG
G2	TANK 29 LOADING PUMP (Copped Off)	P8/104	11kW DOL	SI400121_DWG
G3	TANK 32 LOADING PUMP	P8/116	11kW DOL	SI400122_DWG
G4	FUTURE S/S (FUSE SWITCH FITTED)	P8/xxx	---	SI400123_DWG
H1	SPARE SPACE			SI400124_DWG
H2	SPARE SPACE			SI400125_DWG
I1	T30/T31 SHIPPING/TRANSFER PUMP	P8/123	110kW VSD	SI400126_DWG

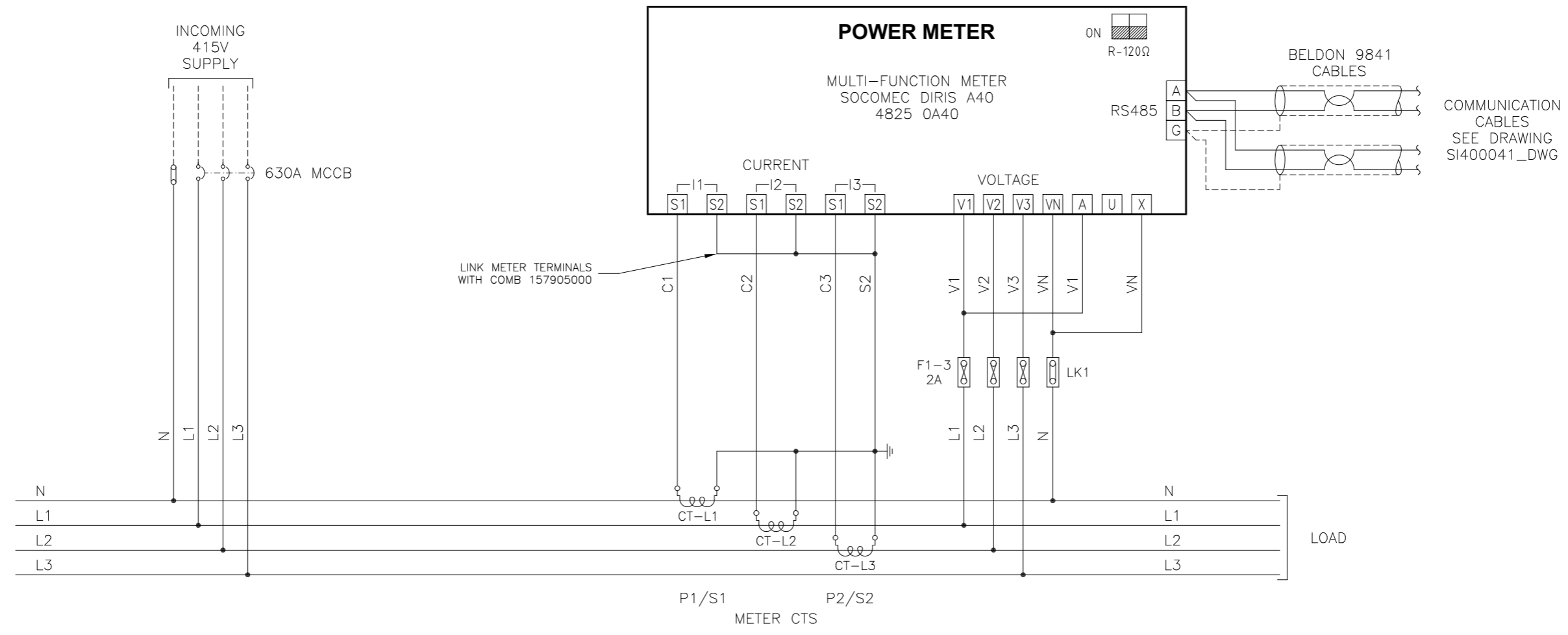


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A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	13/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	17/10/11	P.P.	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	19/12/13	D.B.F	P.P.	D.B.F	D.B.F	M.M.	M.M.	AS BUILT
E	13/03/14	P.P.	P.P.	D.B.F	M.M.			Comp I1 WIRING DRG RE-NUMBERED

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL	
TITLE	No.8A SWITCHROOM - MCC1 PANEL LAYOUT	
	IMMINGHAM STORAGE Co Ltd, IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E., LINCOLNSHIRE, DN40 2DU	
	P & I Design Ltd Tel. 01642 617444 www.pidesign.co.uk	
CLIENT DRG. No.		SHEET 1 OF 1
		P&I DRG No. SI400100_DWG

No.8A SWITCHROOM
MCC1 : COMPARTMENT B1



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A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	11/04/14	P.P.	P.P.	D.B.F	M.M.			AS BUILT

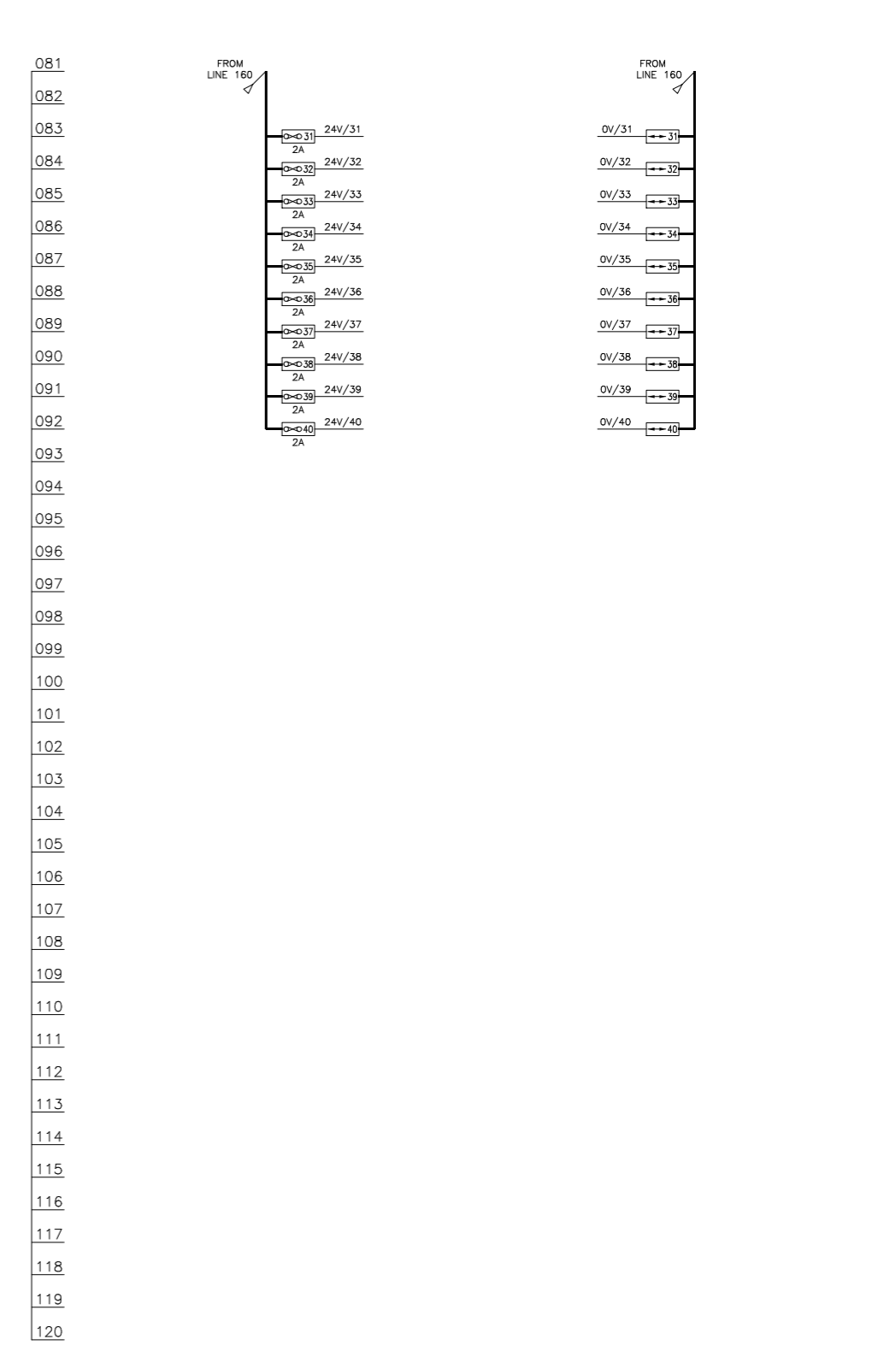
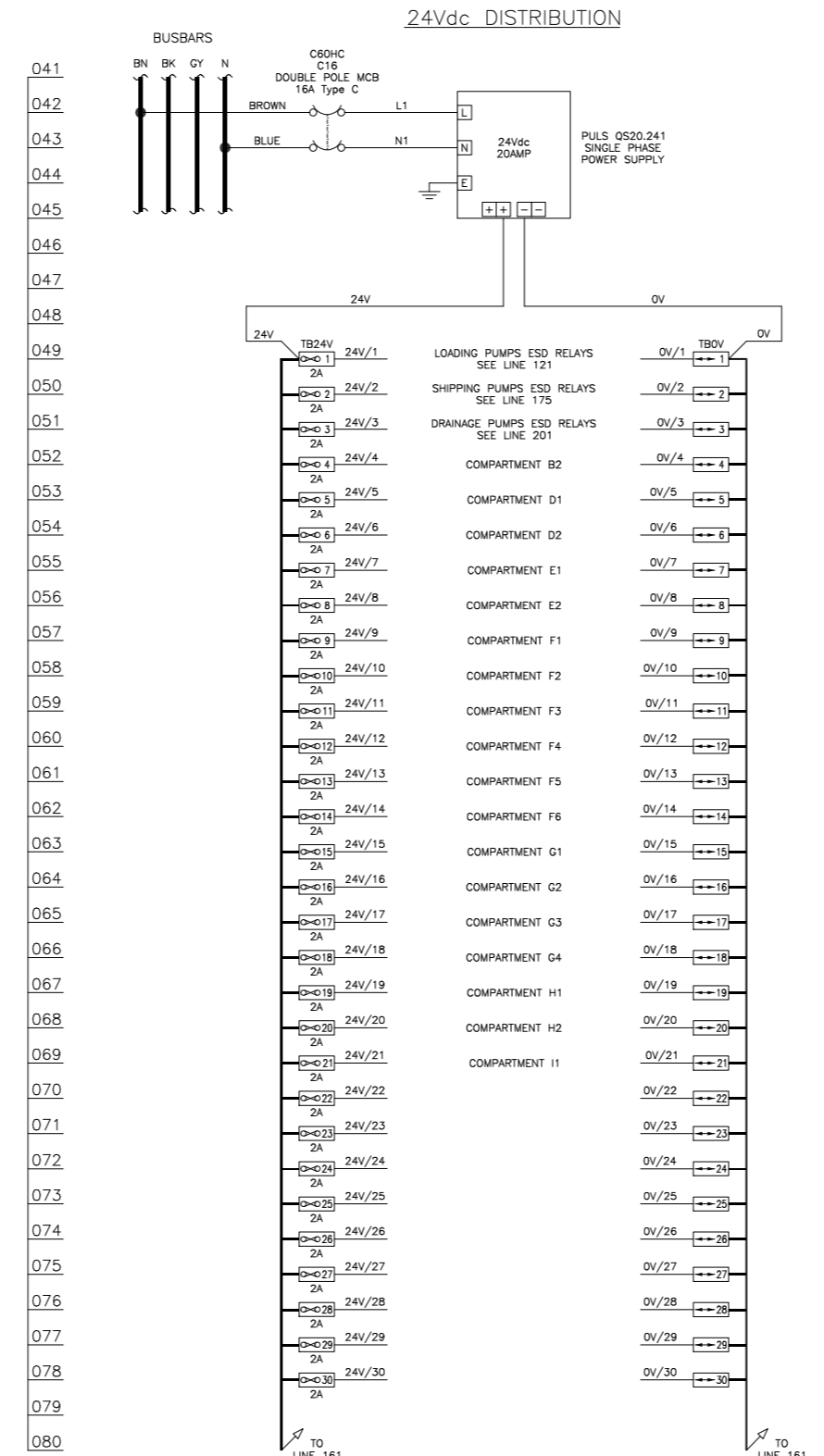
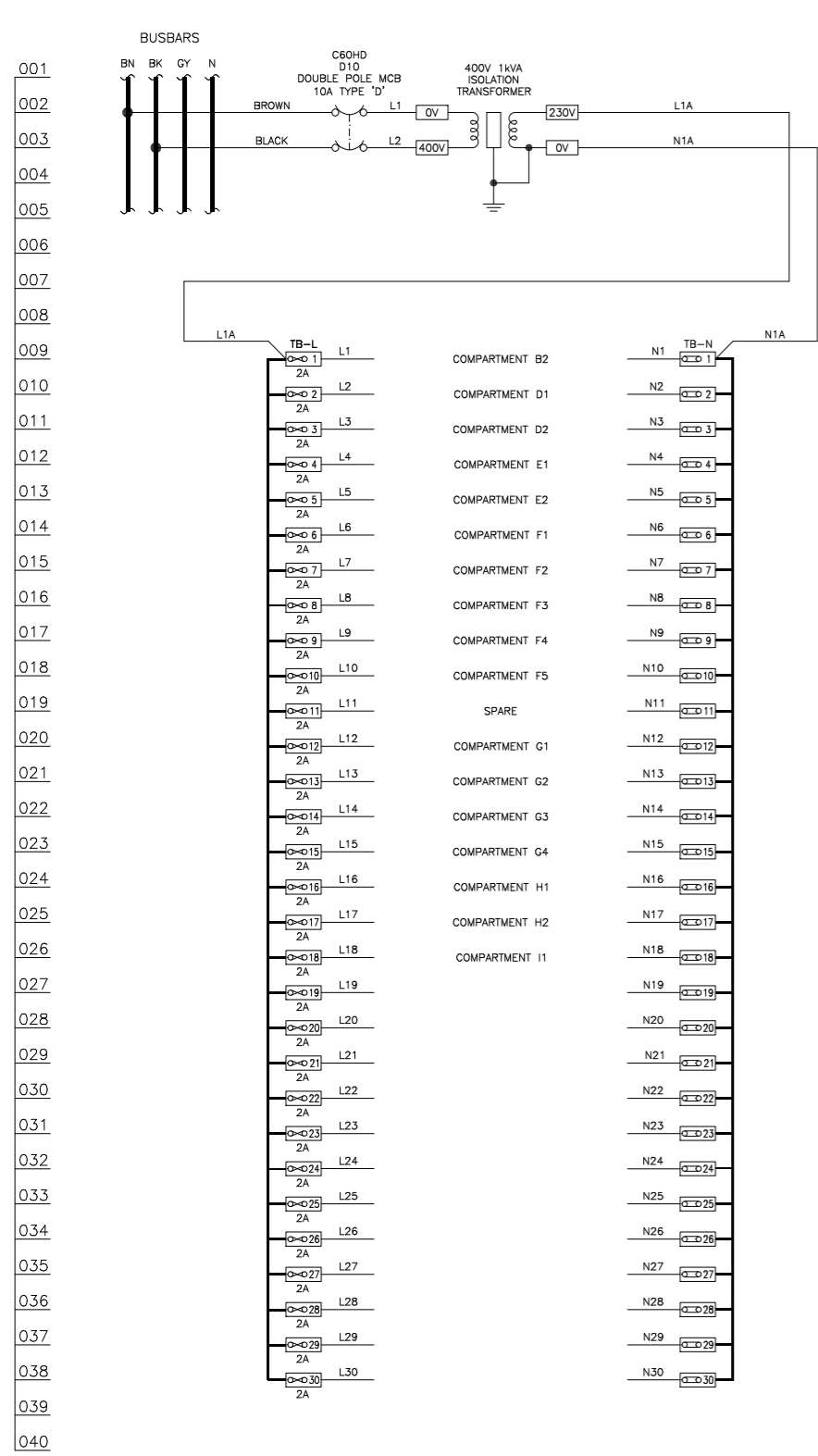
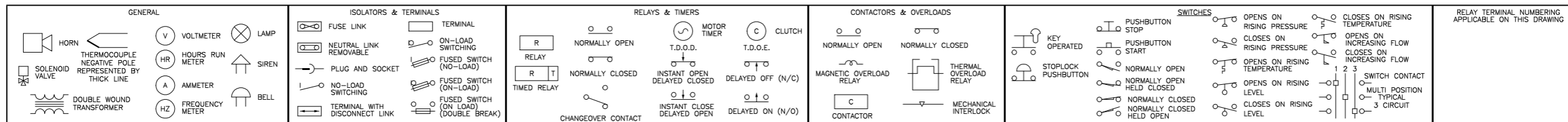
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT B1 INCOMER WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400101_DWG



SIMON IMMINGHAM STORAGE Co. Ltd.
 IMMINGHAM WEST TERMINAL,
 WEST RIVERSIDE,
 IMMINGHAM DOCK,
 IMMINGHAM,
 N.E. LINCOLNSHIRE,
 DN40 2SU

P & I DESIGN P & I Design Ltd
 Tel. 01642 617444
 www.pidesign.co.uk

LEGEND OF GRAPHICAL SYMBOLS (ALL CONTACTS SHOWN IN THE DE-ENERGISED STATE)



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	
A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	FAT UPDATE
D	11/04/14	P.P.	P.P.	D.B.F	M.M.	M.M.	AS BUILT

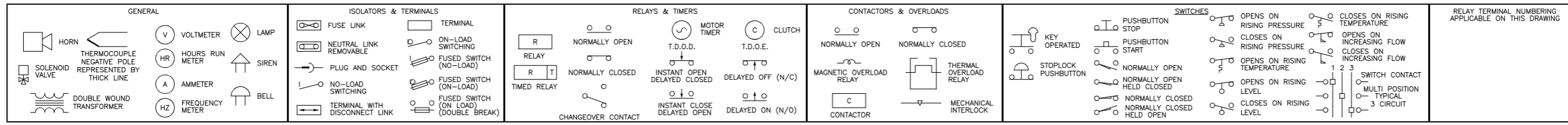


PLANT: IMMINGHAM STORAGE Co. - WEST TERMINAL
 TITLE: No.8A SWITCHROOM - MCC1 COMPARTMENT G1 CONTROL POWER WIRING DETAILS

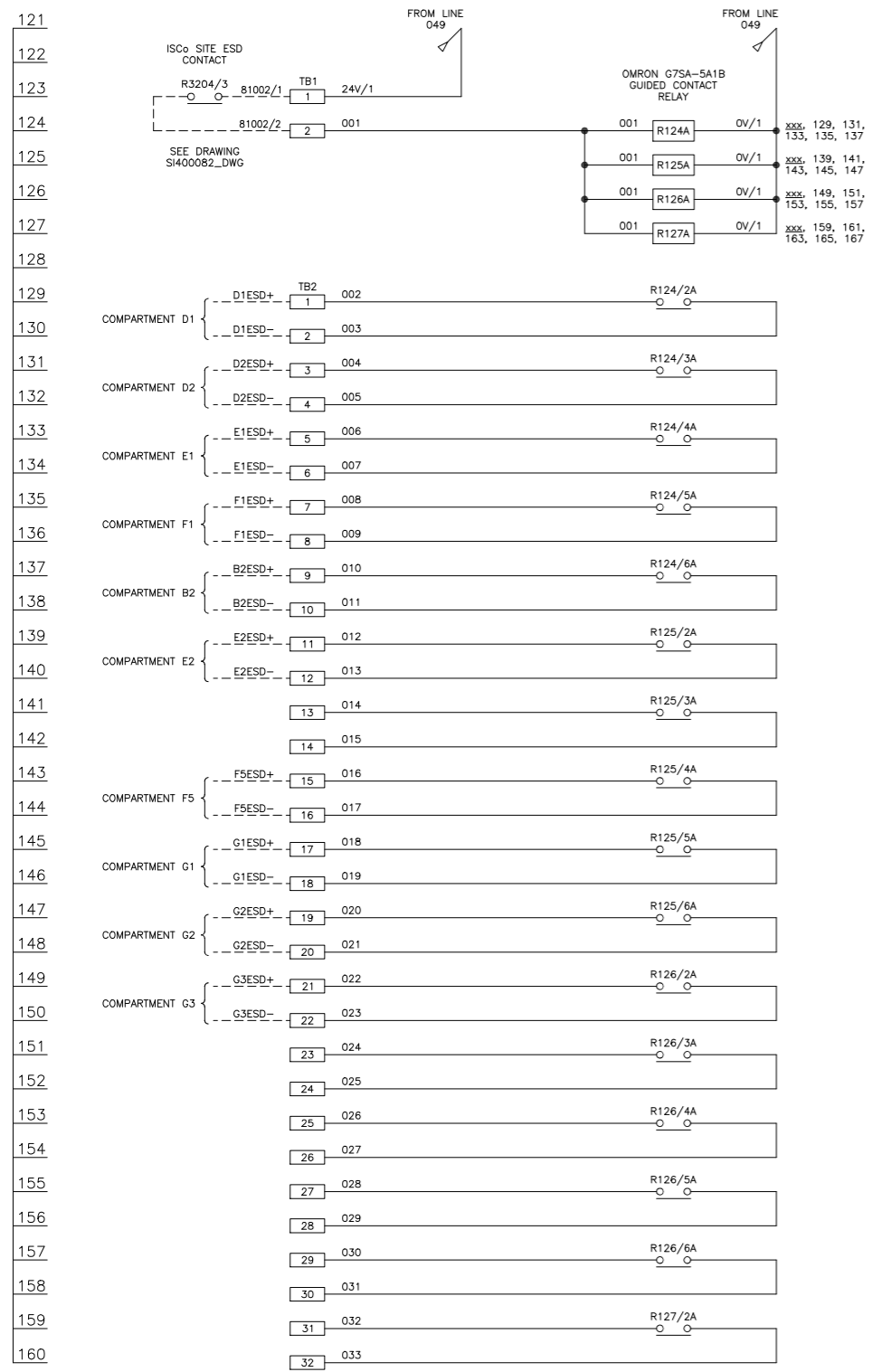
IMMINGHAM STORAGE Co. Ltd.
 IMMINGHAM WEST TERMINAL
 WEST RIVERSIDE,
 IMMINGHAM DOCK,
 IMMINGHAM,
 N.E. LINCOLNSHIRE,
 DN40 2SU

P & I DESIGN
 P & I Design Ltd
 Tel: 01642 617444
 www.pidesign.co.uk

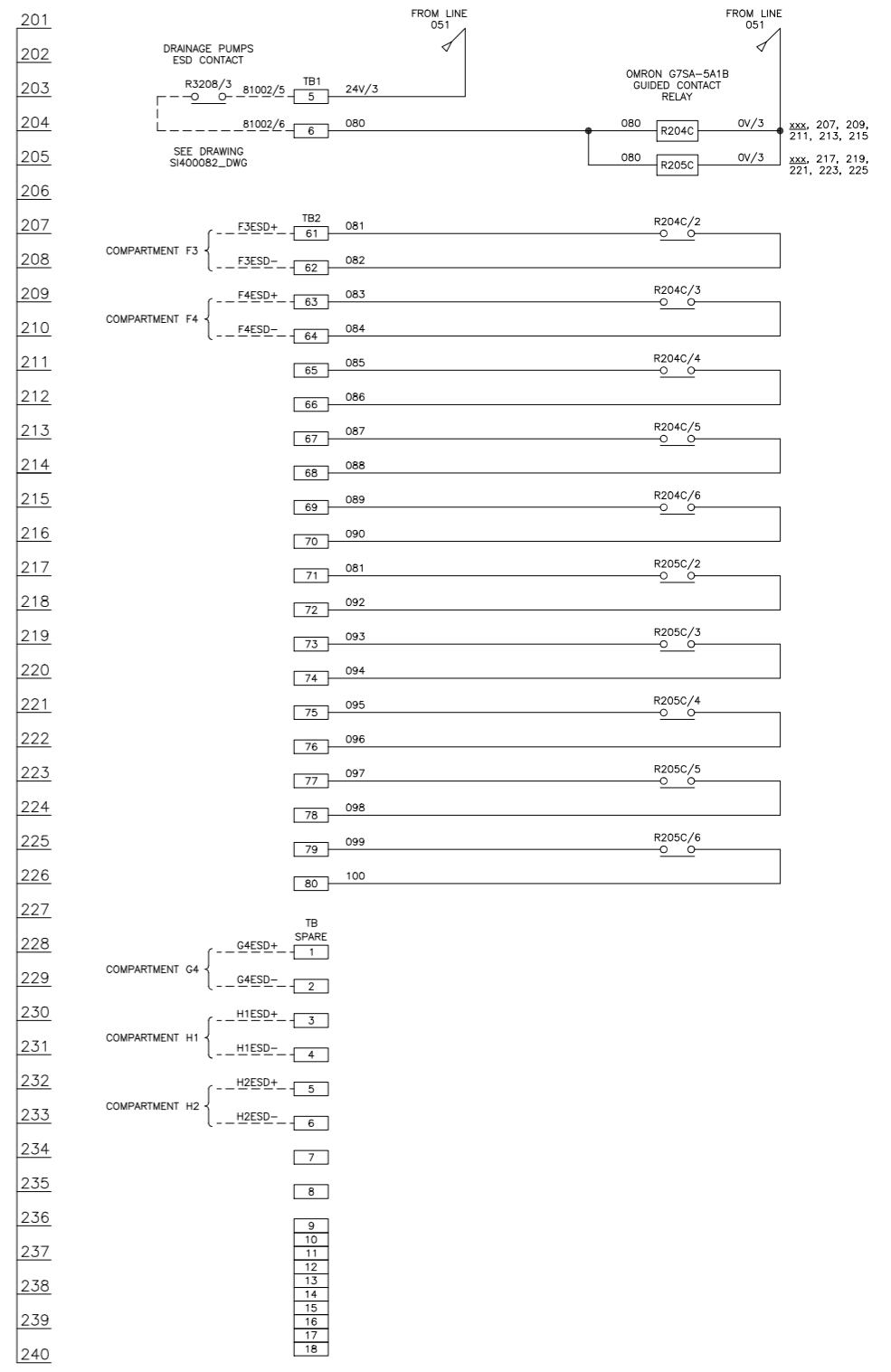
SHEET 1 OF 1
 CLIENT DRG. No. P&I DRG No. SI400102_DWG



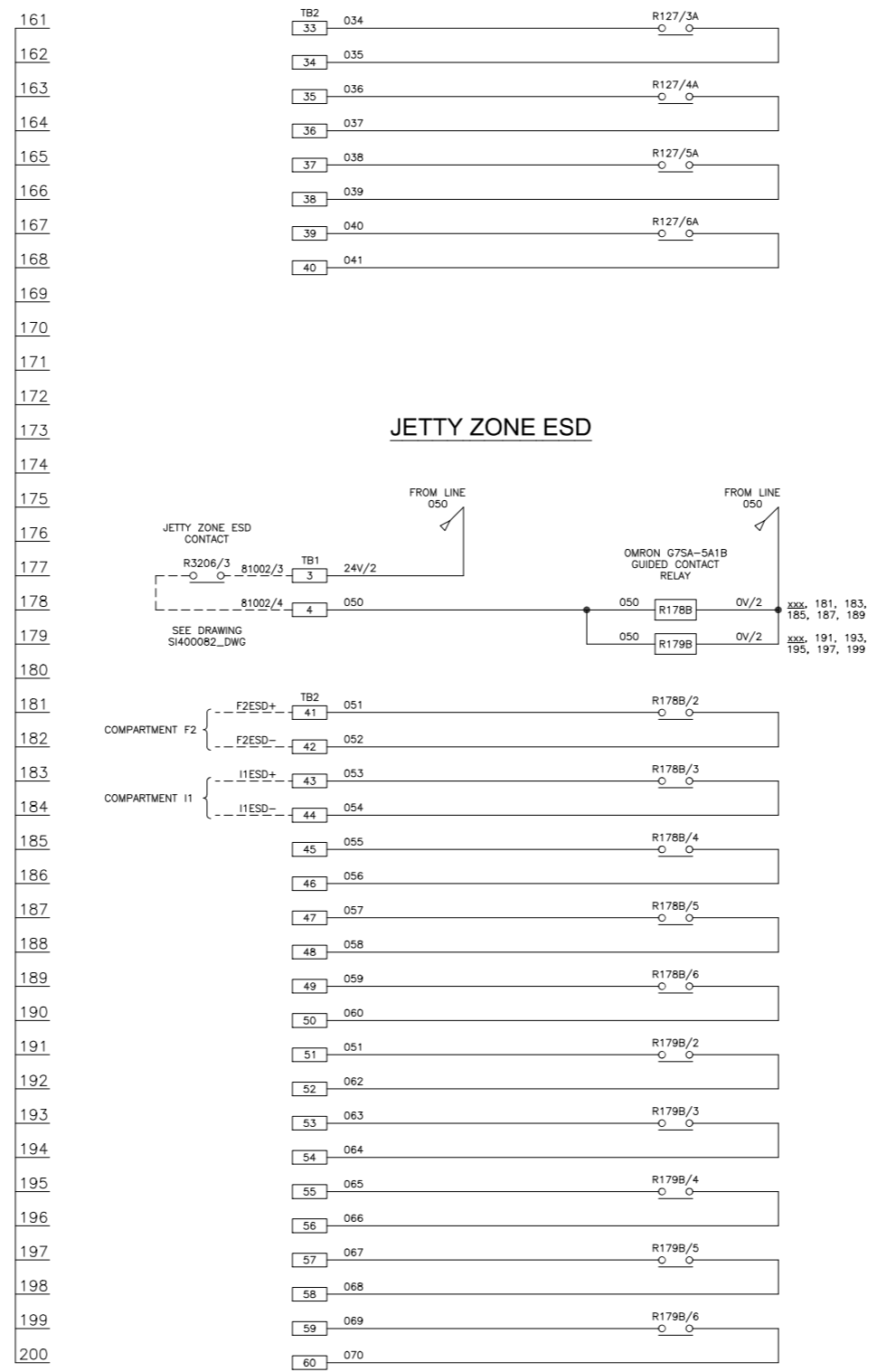
ISCo SITE ESD



DRAINAGE ZONE ESD



JETTY ZONE ESD



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION		
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B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F.	D.A.Y.	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	11/04/14	P.P.	P.P.	D.B.F.	D.B.F.	M.M.	M.M.	AS BUILT
E	13/02/15	P.P.	P.P.	D.B.F.	D.B.F.	M.M.	M.M.	AS BUILT - S1432 PHASE 2
F	16/05/16	P.P.	P.P.	M.M.	M.M.			AS BUILT - S1432 PROJECT

PLANT: IMMINGHAM STORAGE Co. - WEST TERMINAL
 No. 8A SWITCHROOM - MCC1 COMPARTMENT C2
 ESD WIRING DETAILS

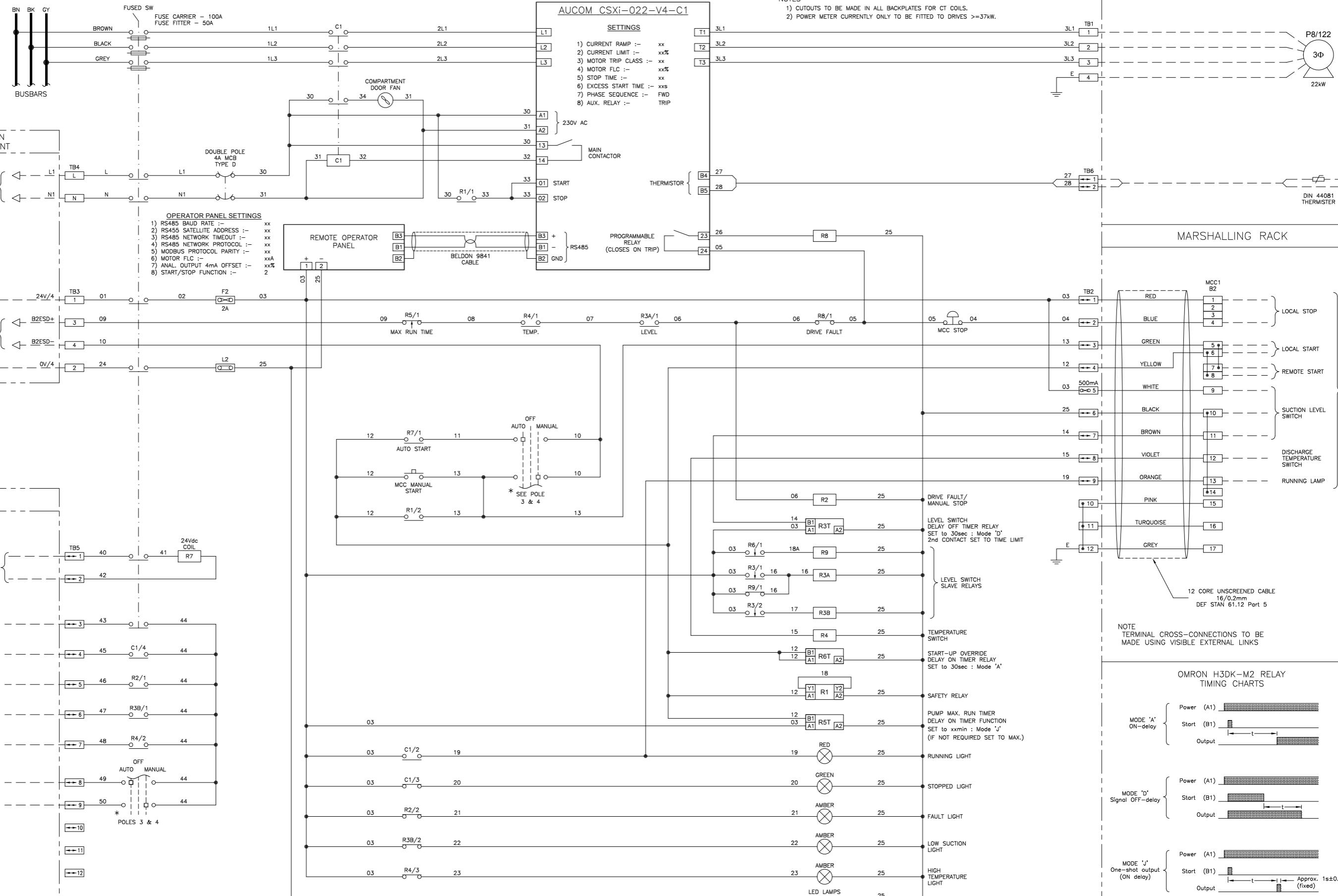
inter terminals
 Immingham Storage Co Ltd
 Immingham West Terminal
 West Riverside
 Immingham Dock
 Immingham
 N.E. Lincolnshire DN40 2DU

P & I Design Ltd
 Tel. 01642 617444
 www.pidesign.co.uk

SHEET 1 OF 1
 CLIENT DRG. No. P&I DRG No. S1400103_DWG

No.8A SWITCHROOM
MCC1 - COMPARTMENT B2

FIELD



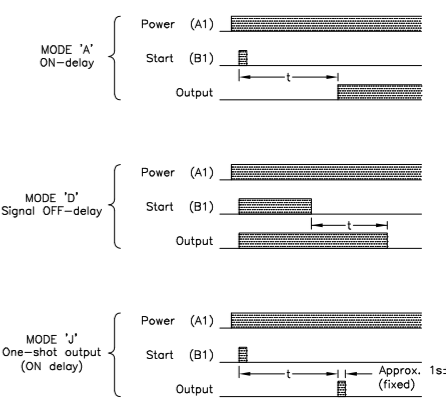
NOTES
1) CUTOUPS TO BE MADE IN ALL BACKPLATES FOR CT COILS.
2) POWER METER CURRENTLY ONLY TO BE FITTED TO DRIVES >=37kW.

- AUCOM CSXi-022-V4-C1**
- SETTINGS**
- CURRENT RAMP :- xx
 - CURRENT LIMIT :- xx%
 - MOTOR TRIP CLASS :- xx
 - MOTOR FLC :- xx%
 - STOP TIME :- xx
 - EXCESS START TIME :- xxs
 - PHASE SEQUENCE :- FWD TRIP
 - AUX. RELAY :-

- OPERATOR PANEL SETTINGS**
- RS485 BAUD RATE :- xx
 - RS485 SATELLITE ADDRESS :- xx
 - RS485 NETWORK TIMEOUT :- xx
 - RS485 NETWORK PROTOCOL :- xx
 - MODBUS PROTOCOL PARITY :- xx
 - MOTOR FLC :- xxA
 - ANAL. OUTPUT 4mA OFFSET :- xx%
 - START/STOP FUNCTION :- 2

NOTE
TERMINAL CROSS-CONNECTIONS TO BE MADE USING VISIBLE EXTERNAL LINKS

OMRON H3DK-M2 RELAY TIMING CHARTS



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

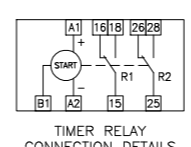
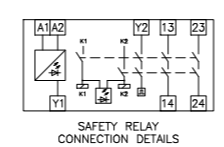
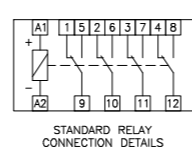
CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:

TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

- RELAYS:**
- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
 - TIMER RELAY :- OMRON H3DK-M2



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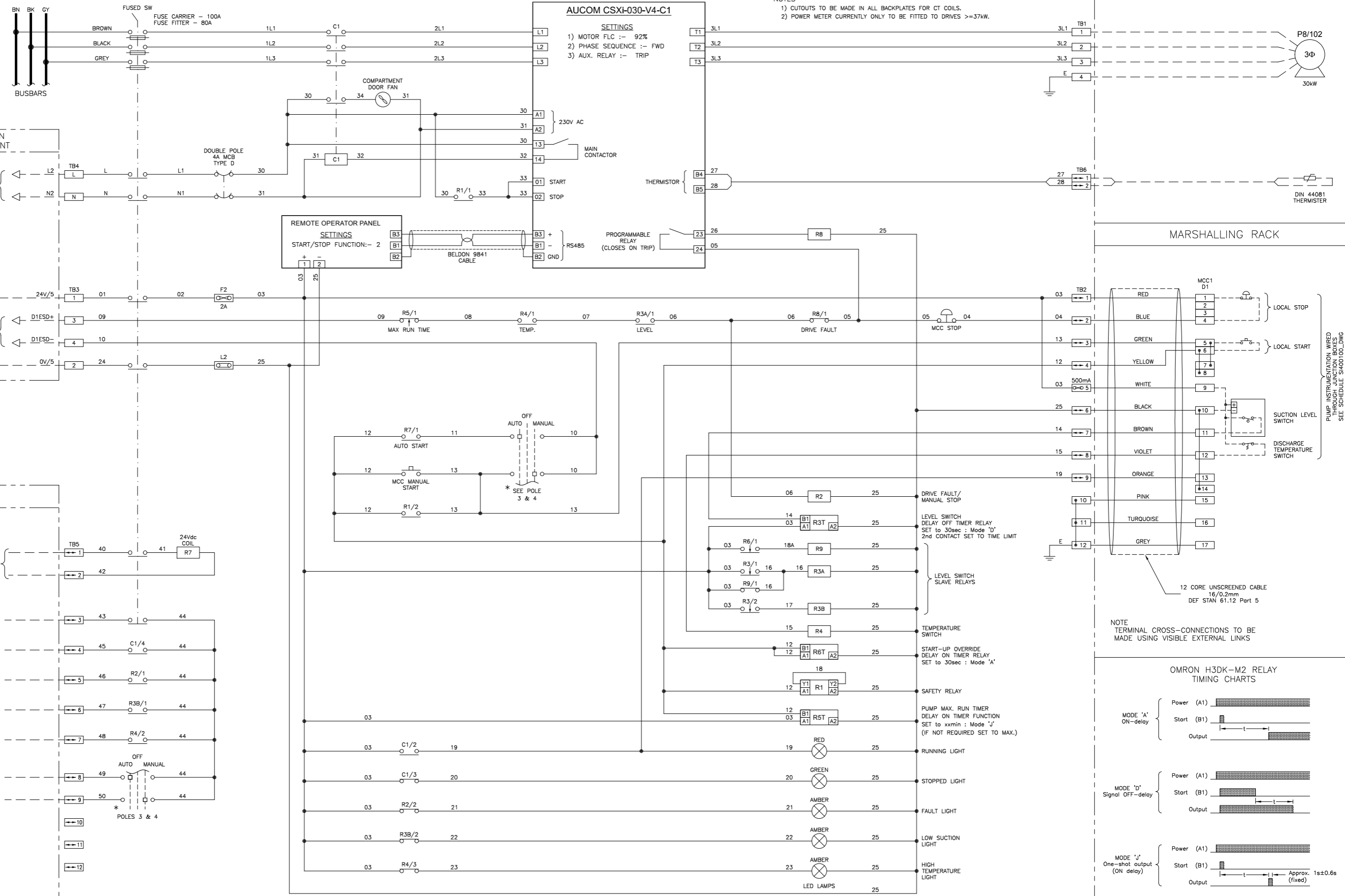
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT B2 (P8/122) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400109_DWG



No.8A SWITCHROOM
MCC1 - COMPARTMENT D1

FIELD



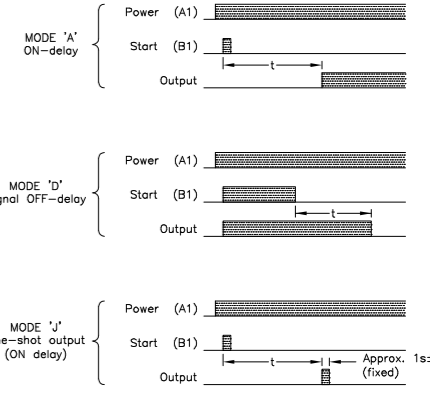
NOTES
1) CUTOUTS TO BE MADE IN ALL BACKPLATES FOR CT COILS.
2) POWER METER CURRENTLY ONLY TO BE FITTED TO DRIVES >=37kW.

AUCOM CSXI-030-V4-C1
SETTINGS
1) MOTOR FLC :- 92%
2) PHASE SEQUENCE :- FWD
3) AUX. RELAY :- TRIP

REMOTE OPERATOR PANEL
SETTINGS
START/STOP FUNCTION:- 2

MARSHALLING RACK

OMRON H3DK-M2 RELAY
TIMING CHARTS



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE COLOURS:

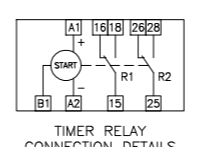
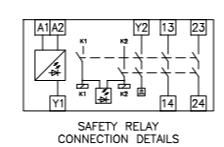
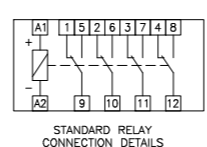
3φ - PHASE COLOURS	SIZE:
230Vac - BROWN	TO SUIT MOTOR LOAD
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.5mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:

TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

RELAYS:

1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :- FINDER TYPE 55.34.9.024.0.0094 BASE :- FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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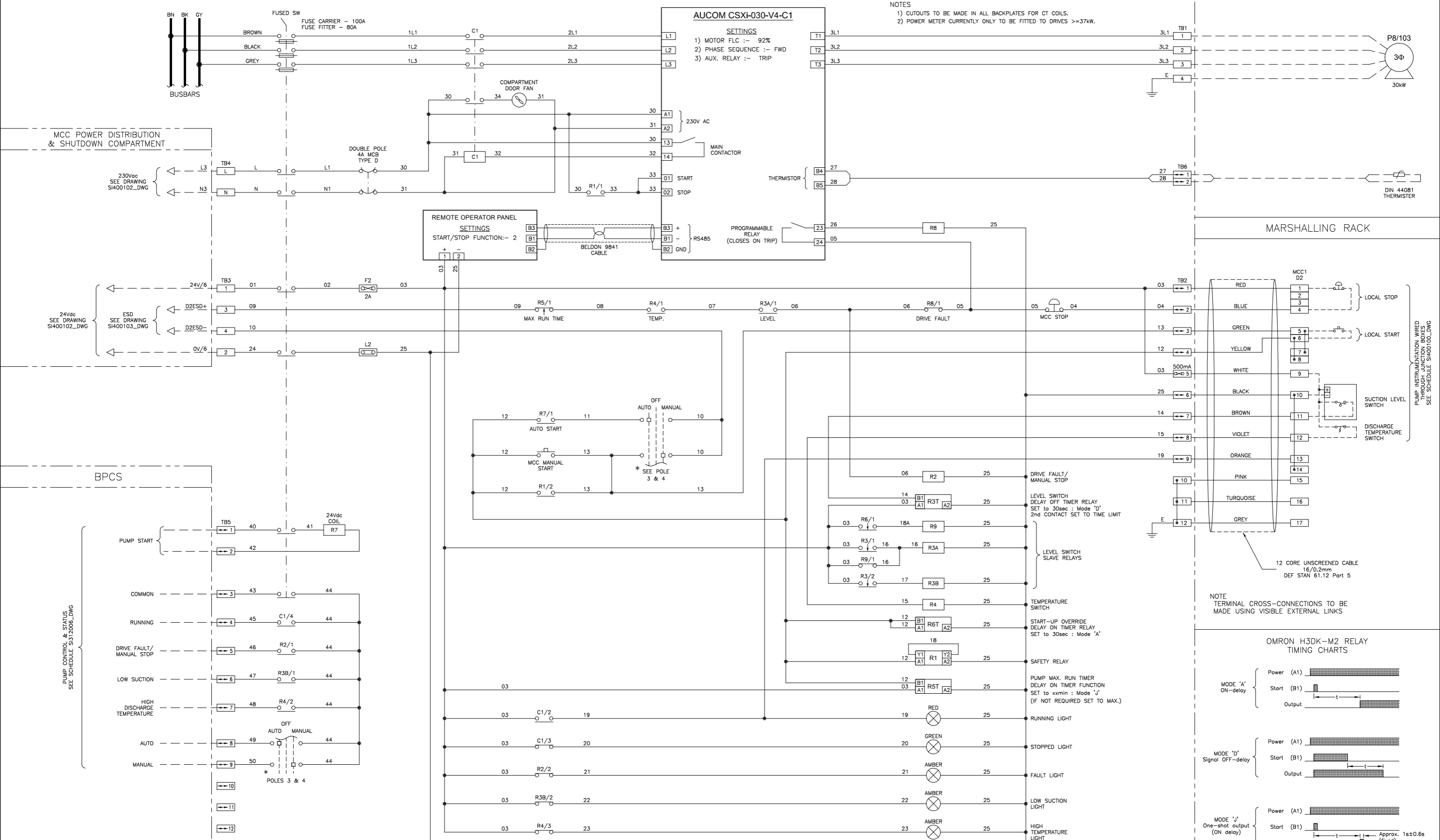
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A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	02/07/12	P.P.	P.P.	M.M.	M.M.	COMPARTMENT UPGRATED TO 30KW
C	03/07/13	P.P.	P.P.	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT D1 (P8/102) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400110_DWG



No.8A SWITCHROOM
MCC1 - COMPARTMENT D2

FIELD



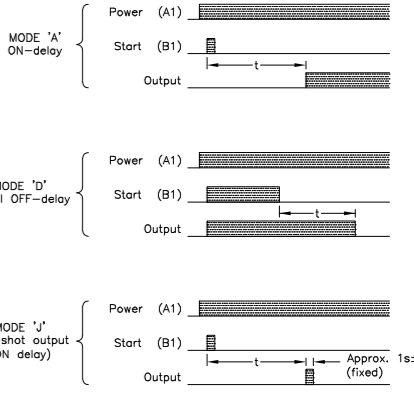
NOTES
1) CUTOUTS TO BE MADE IN ALL BACKPLATES FOR CT COILS.
2) POWER METER CURRENTLY ONLY TO BE FITTED TO DRIVES >=37kW.

AUCOM CSXI-030-V4-C1
SETTINGS
1) MOTOR FLC :- 92%
2) PHASE SEQUENCE :- FWD
3) AUX. RELAY :- TRIP

REMOTE OPERATOR PANEL
SETTINGS
START/STOP FUNCTION:- 2

MARSHALLING RACK

OMRON H3DK-M2 RELAY TIMING CHARTS



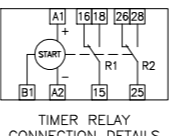
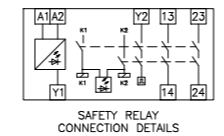
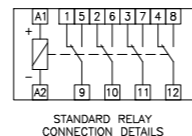
NOTES:
1) EXTERNAL WIRING SHOWN - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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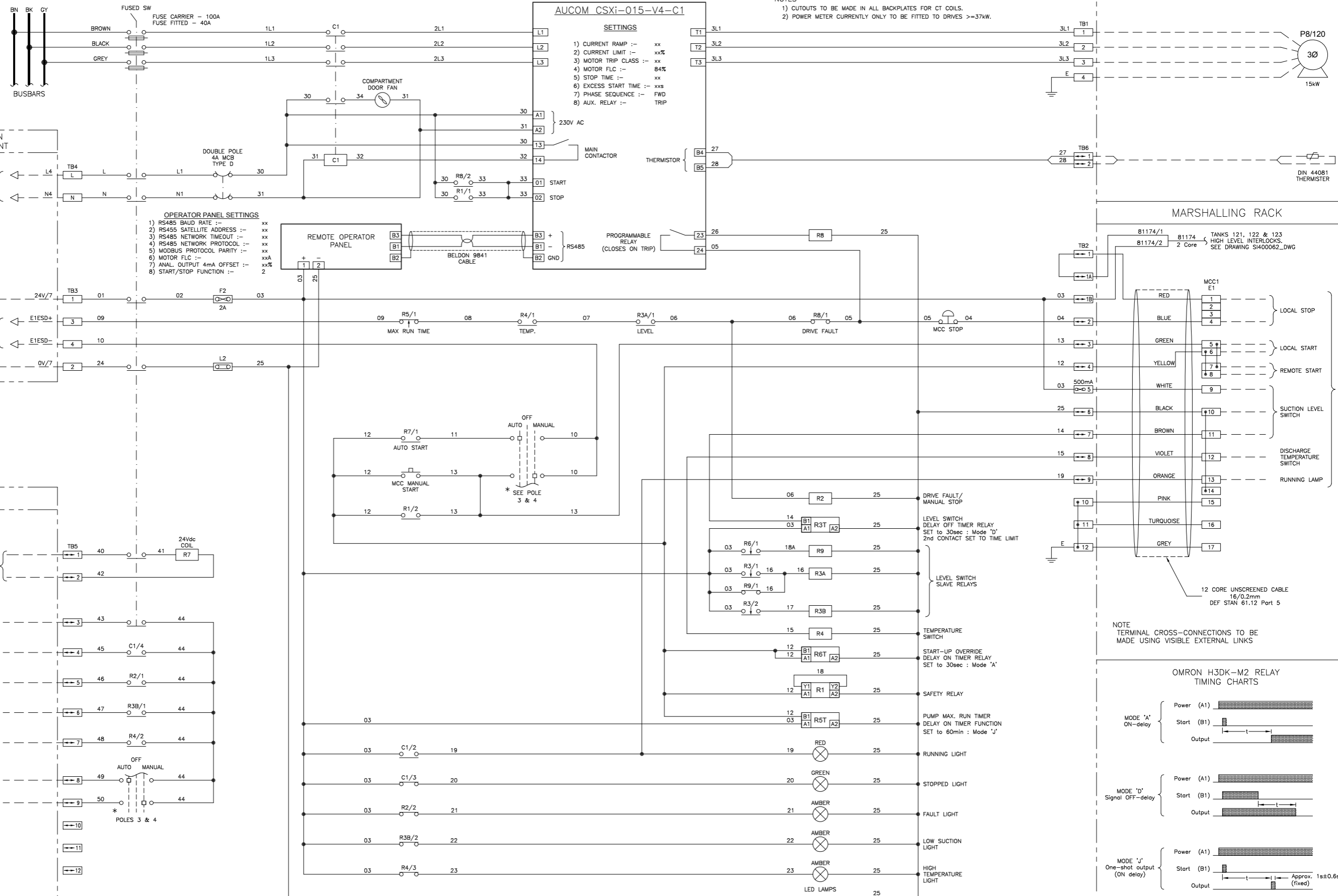
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B	02/07/12	P.P.	P.P.	M.M.	M.M.	COMPARTMENT UPGRATED TO 30KW
C	03/07/13	P.P.	P.P.	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT D2 (P8/103) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400111_DWG

SHEET 1 OF 1
P&I Design Ltd
Tel. 01642 617444
www.pidesign.co.uk

No.8A SWITCHROOM
MCC1 - COMPARTMENT E1

FIELD

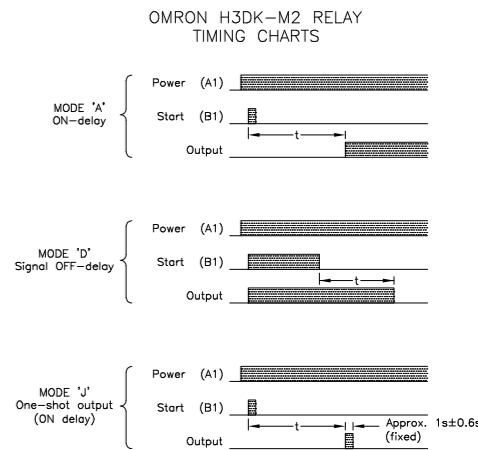


NOTES
1) CUTOUPS TO BE MADE IN ALL BACKPLATES FOR CT COILS.
2) POWER METER CURRENTLY ONLY TO BE FITTED TO DRIVES >=37kW.

AUCOM CSXi-015-V4-C1
SETTINGS
1) CURRENT RAMP :- xx
2) CURRENT LIMIT :- xx%
3) MOTOR TRIP CLASS :- xx
4) MOTOR FLC :- 84%
5) STOP TIME :- xx
6) EXCESS START TIME :- xxs
7) PHASE SEQUENCE :- FWD TRIP
8) AUX. RELAY :-

OPERATOR PANEL SETTINGS
1) RS485 BAUD RATE :- xx
2) RS485 SATELLITE ADDRESS :- xx
3) RS485 NETWORK TIMEOUT :- xx
4) RS485 NETWORK PROTOCOL :- xx
5) MODBUS PROTOCOL PARITY :- xxA
6) MOTOR FLC :- xx%
7) ANAL. OUTPUT 4mA OFFSET :- xx%
8) START/STOP FUNCTION :- 2

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS



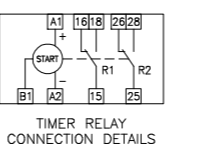
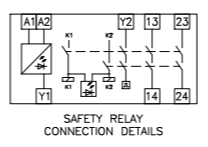
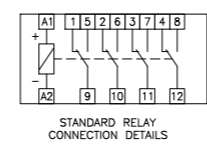
NOTES:
1) EXTERNAL WIRING SHOWN - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



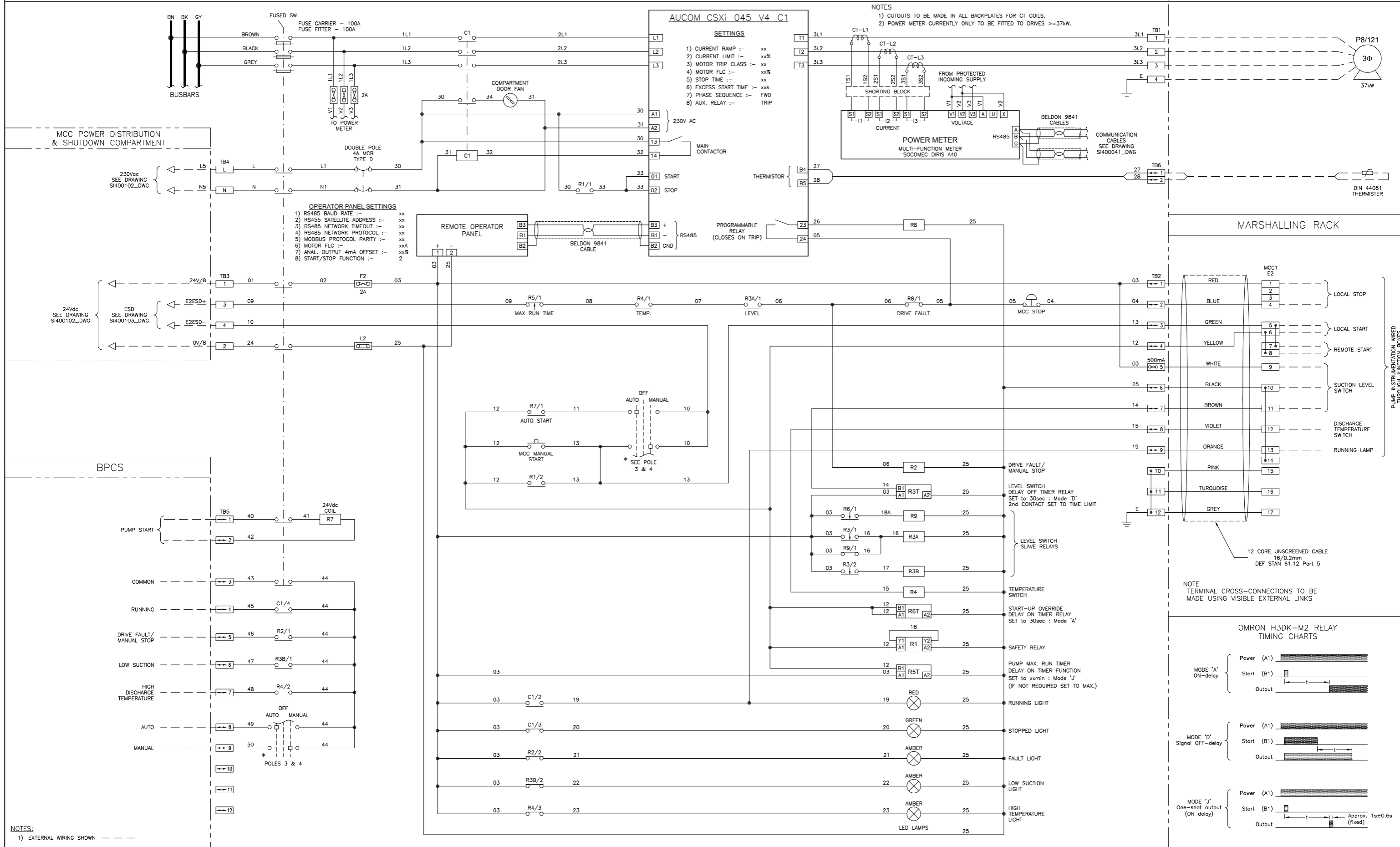
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A	24/04/13	D.B.F	P.P.	D.B.F	M.M.	M.M.	0LP47 AREA J - S1462 PROJECT
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT E1 (P8/120) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DESIGN SHEET 1 OF 1 P&I DRG No. SI400112_DWG

No.8A SWITCHROOM
MCC1 - COMPARTMENT E2

FIELD



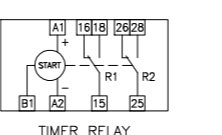
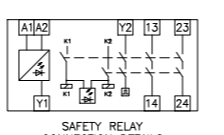
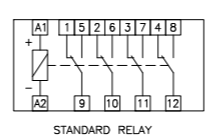
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

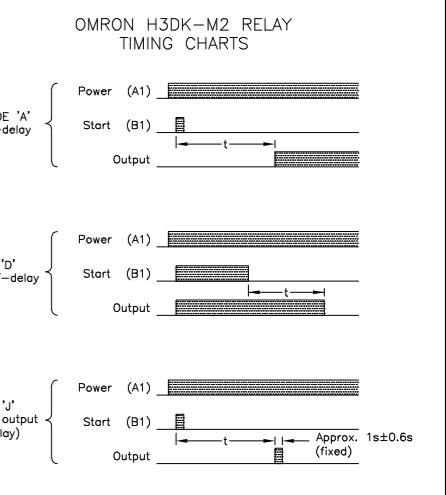
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT E2 (P8/121) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400113_DWG



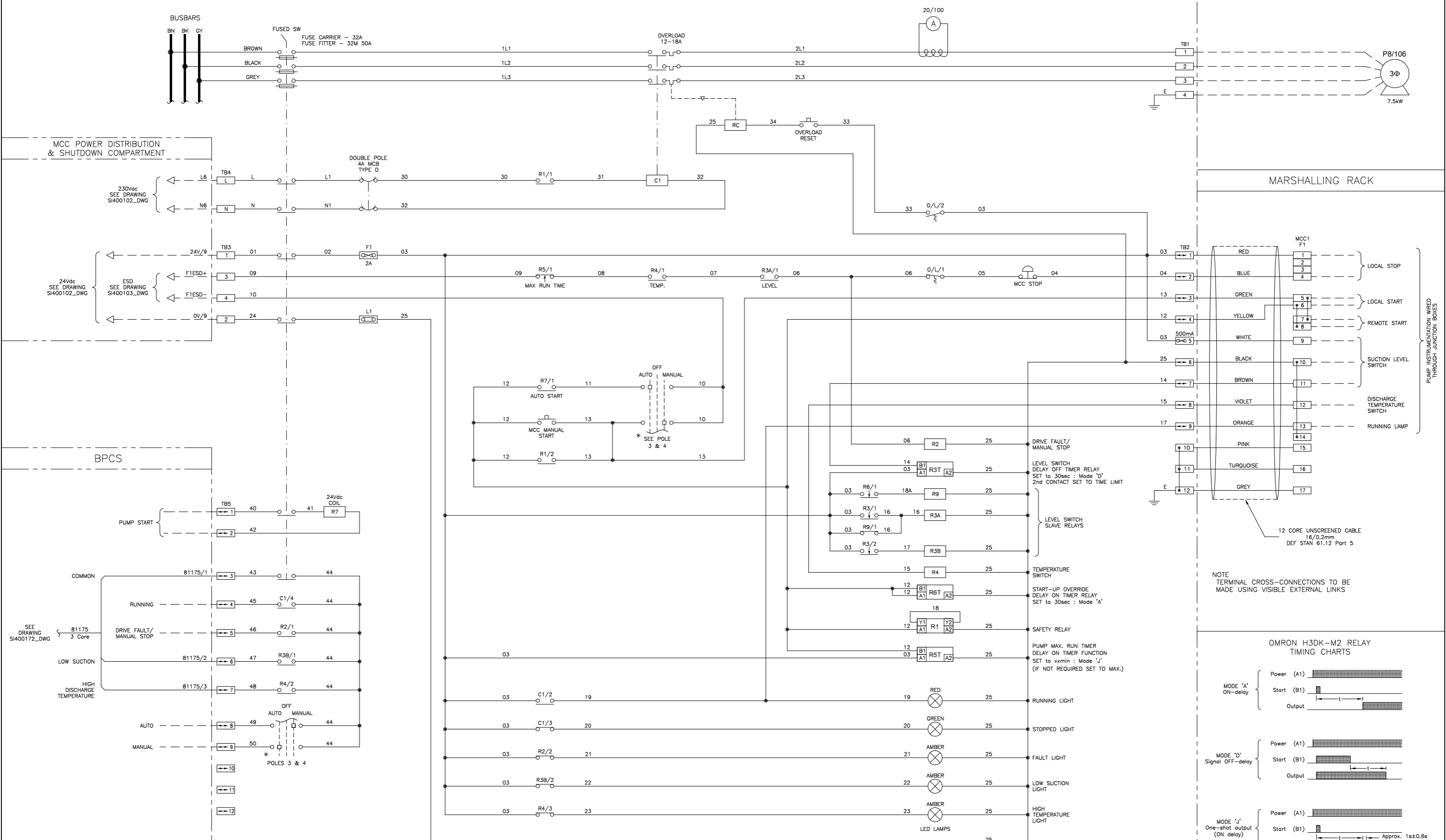
PUMP INSTRUMENTATION WIRING THROUGH JUNCTION BOXES

NOTE
TERMINAL CROSS-CONNECTIONS TO BE MADE USING VISIBLE EXTERNAL LINKS

12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

No.8A SWITCHROOM
MCC1 - COMPARTMENT F1

FIELD



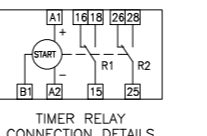
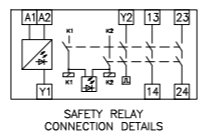
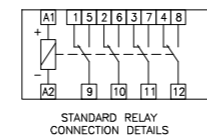
NOTES:
1) EXTERNAL WIRING SHOWN - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16, WTR2.5 & WDU2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5

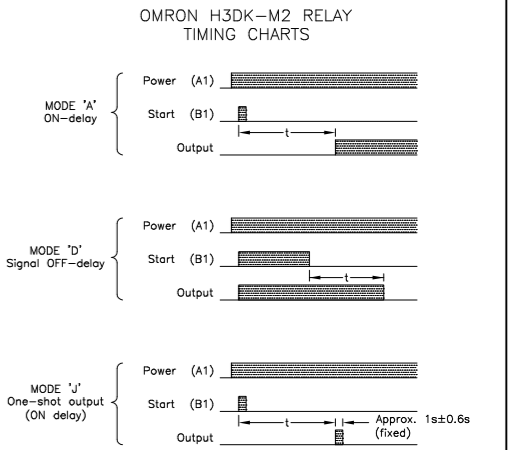
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	06/09/13	D.B.F	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT F1 (P8/106) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400114_DWG



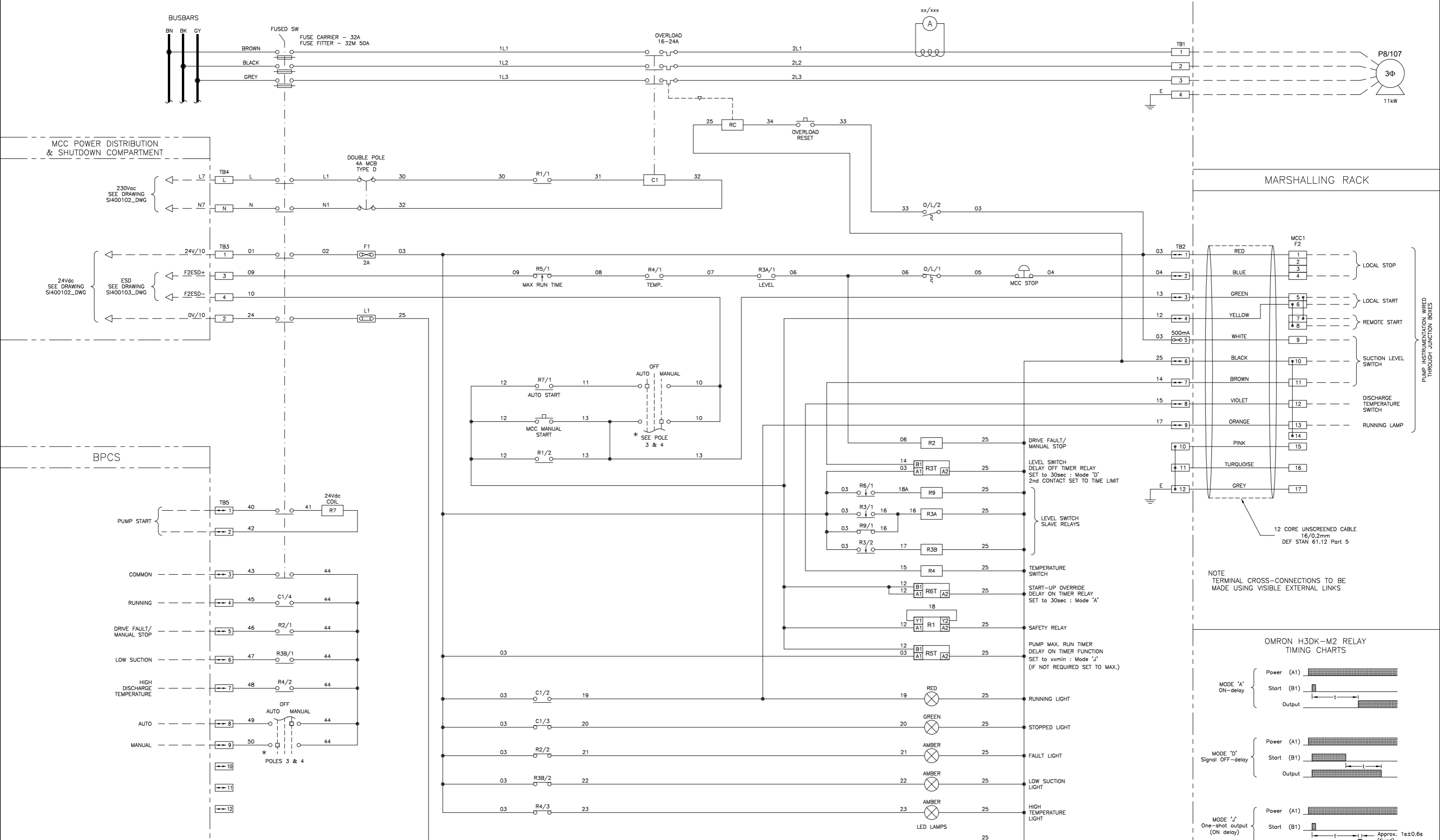
NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

PUMP INSTRUMENTATION WIRED
THROUGH JUNCTION BOXES

No.8A SWITCHROOM
MCC1 - COMPARTMENT F2

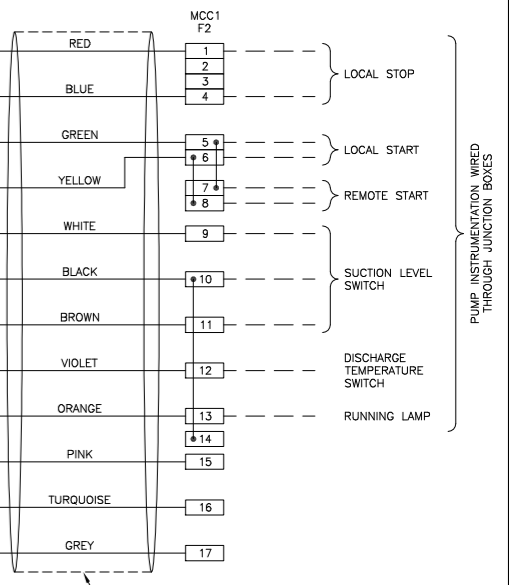
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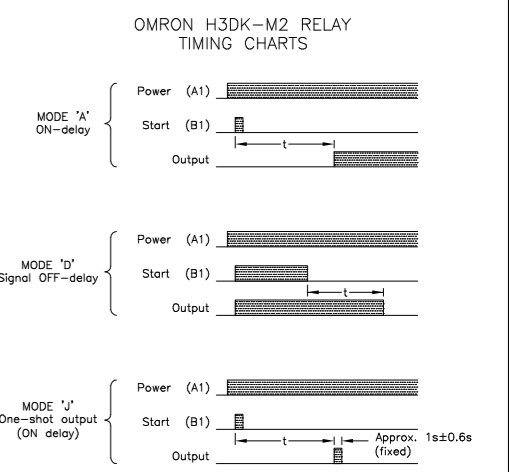
MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT

BPCS

MARSHALLING RACK



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS



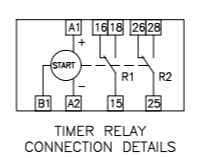
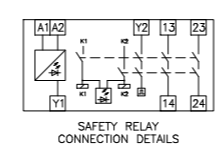
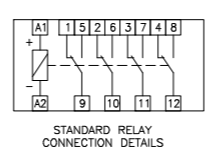
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

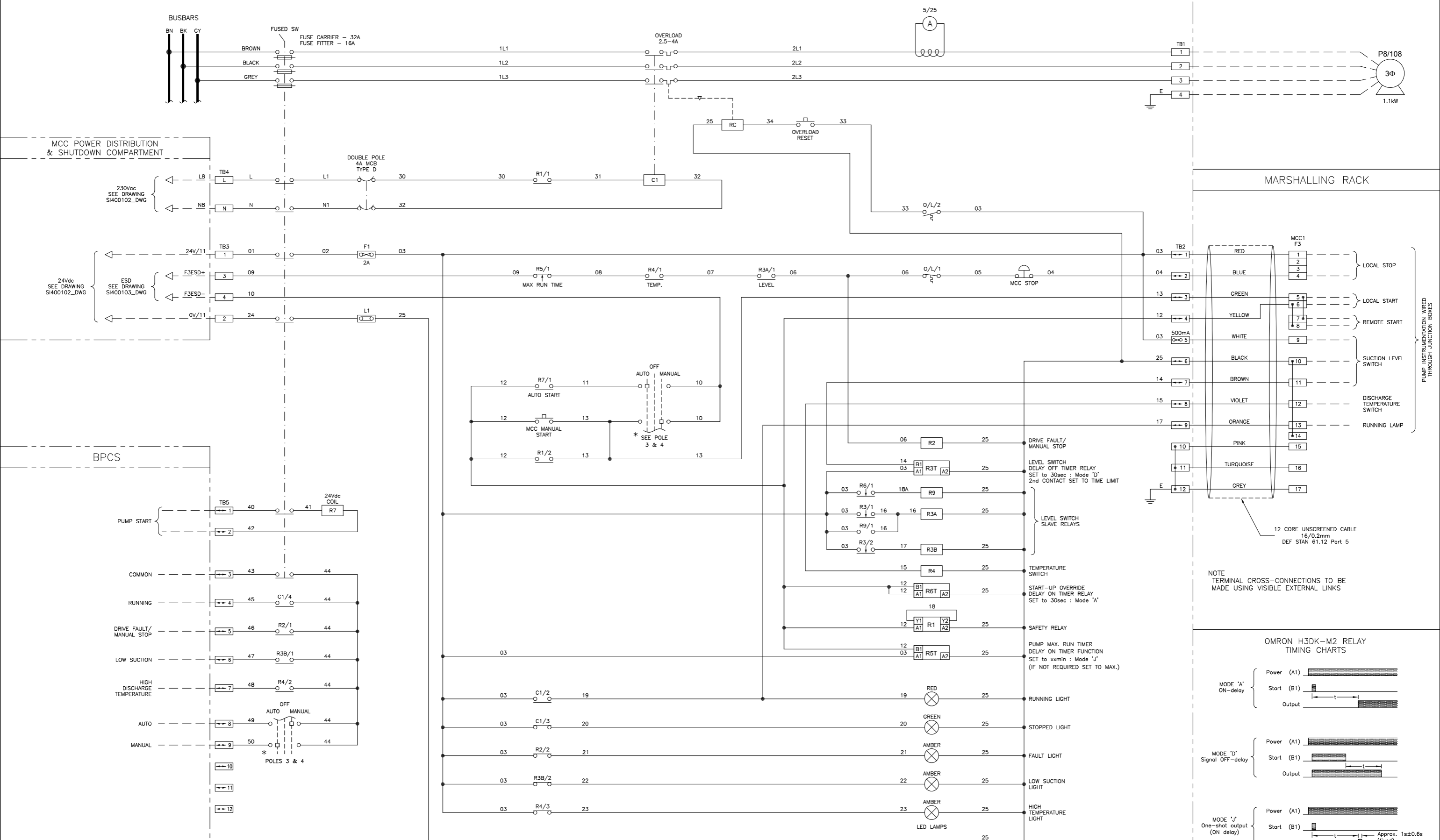
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT F2 (P8/107) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400115_DWG

SHEET 1 OF 1
P&I Design Ltd
Tel: 01642 617444
www.pidesign.co.uk

No.8A SWITCHROOM
MCC1 - COMPARTMENT F3

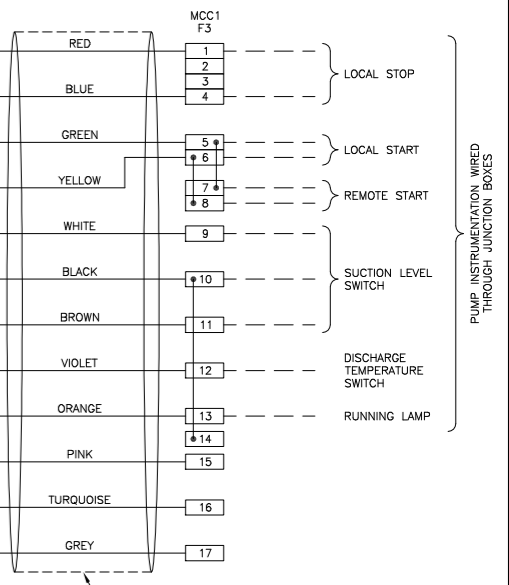
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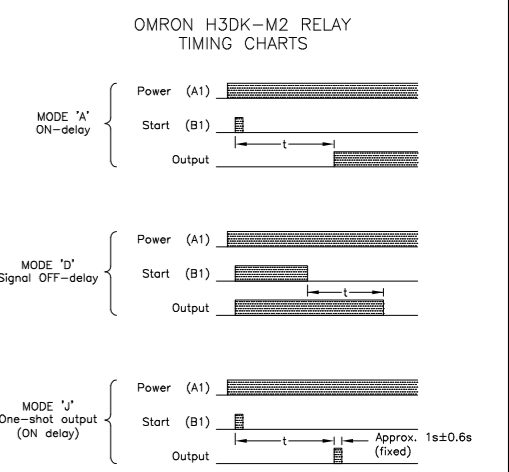
MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT

BPCS

MARSHALLING RACK



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS



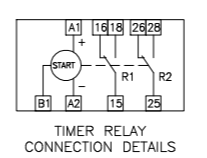
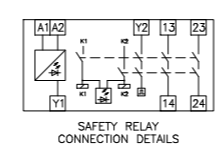
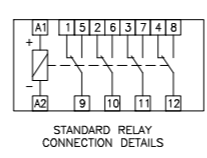
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3Φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

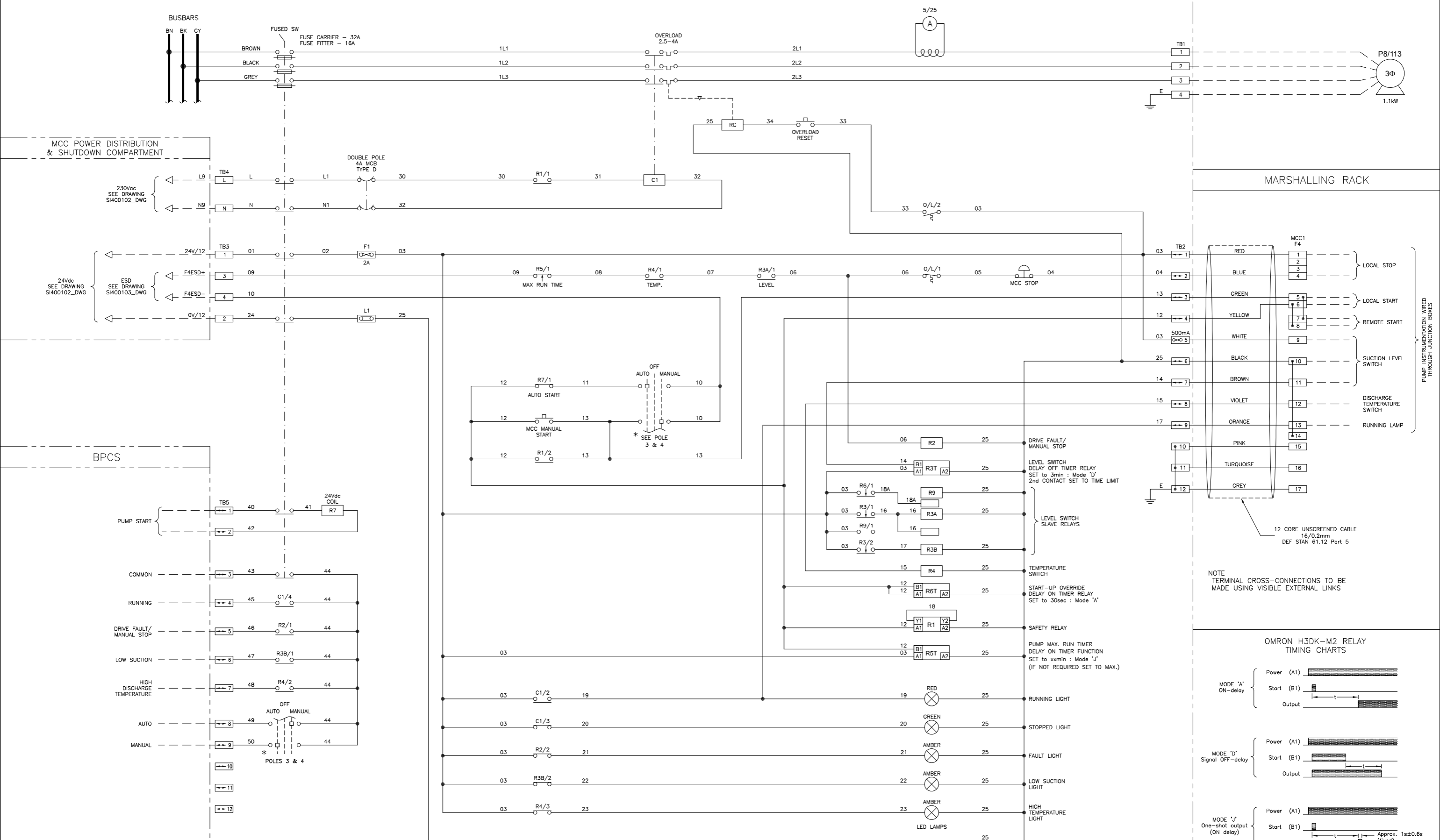
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT F3 (P8/108) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400116_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC1 - COMPARTMENT F4

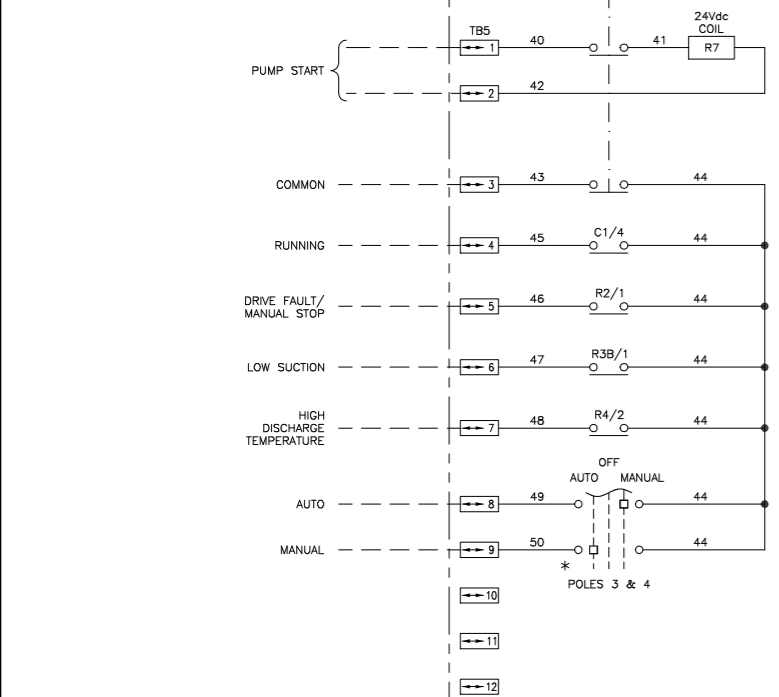
FIELD



MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT

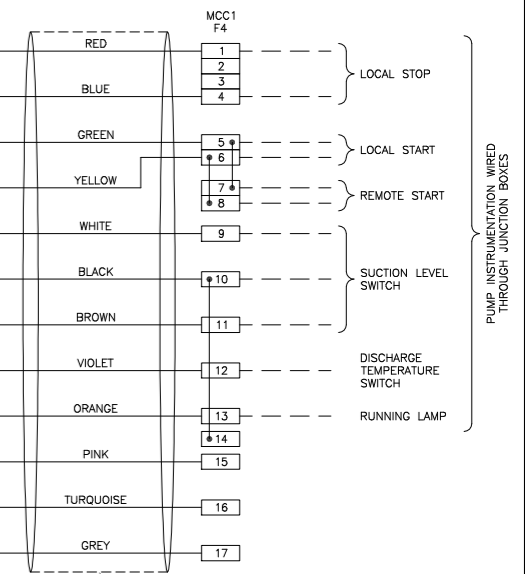
230Vac SEE DRAWING SI400102_DWG
24Vdc SEE DRAWING SI400103_DWG

BPCS

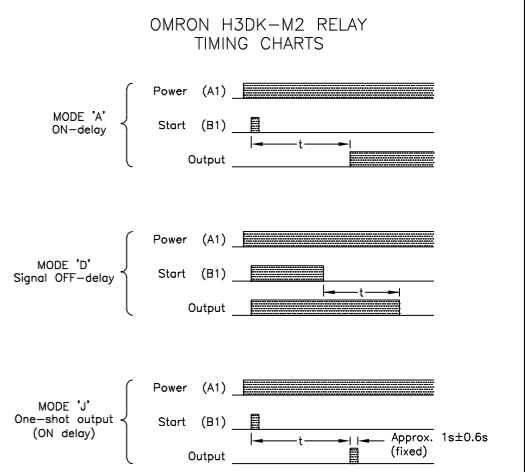


NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

MARSHALLING RACK



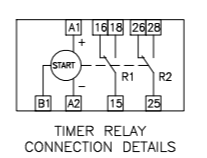
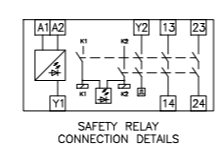
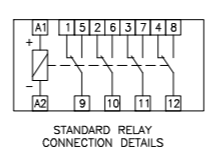
NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS



CABLE:
COLOURS:
3Φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	ISC0	P.P.	D.B.F	M.M.	AS BUILT

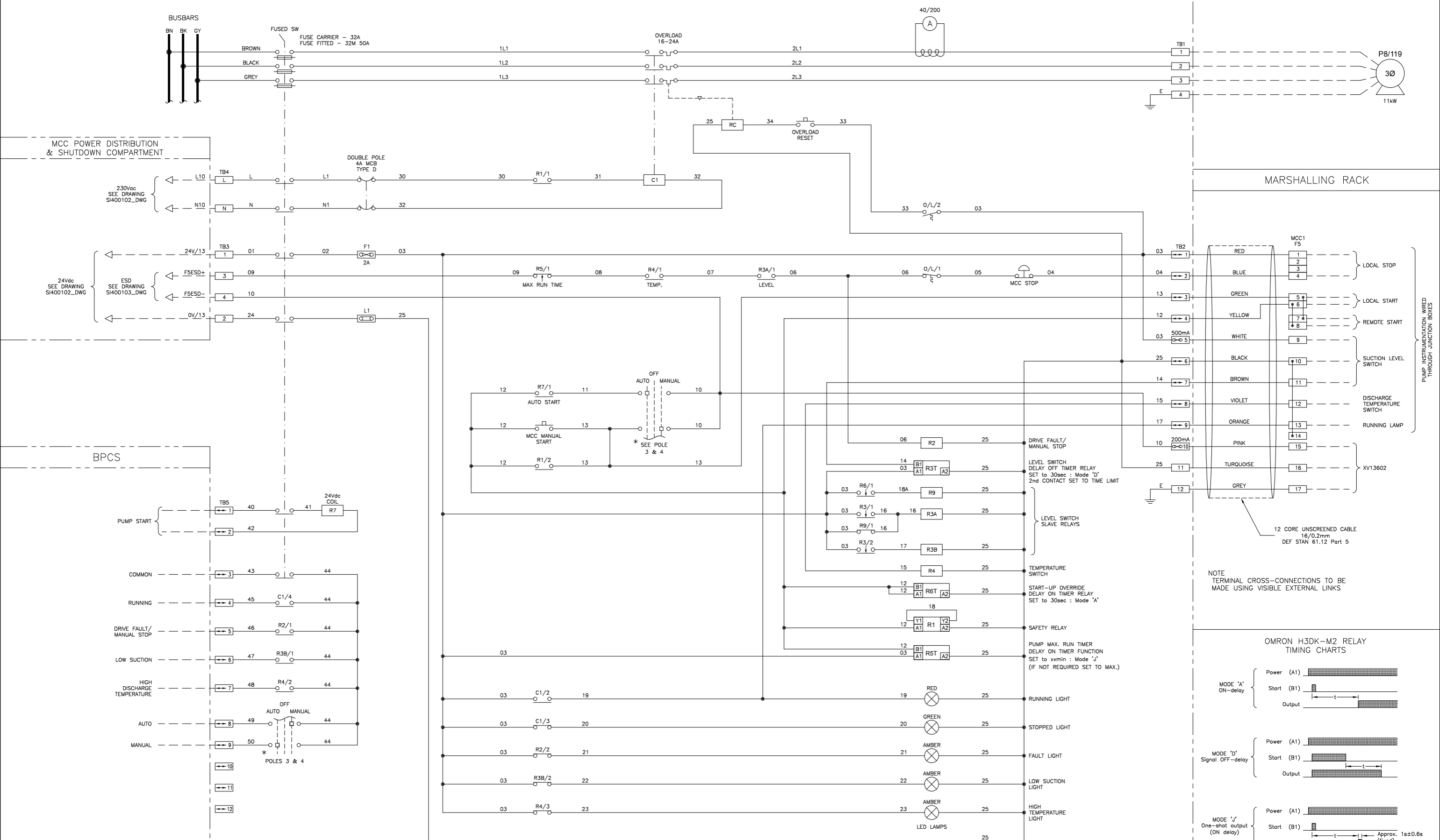
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT F4 (P8/113) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400117_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC1 - COMPARTMENT F5

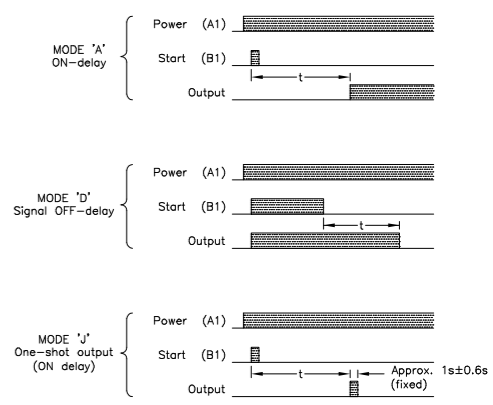
FIELD



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

OMRON H3DK-M2 RELAY
TIMING CHARTS

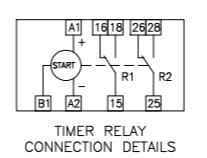
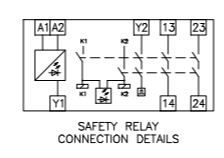
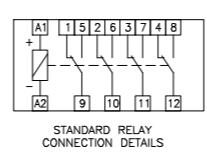


CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

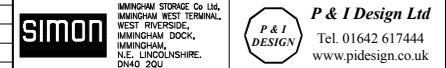
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	M.M.
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	M.M.

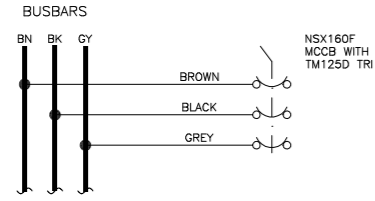
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT F5 (P8/119) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400118_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC1 - COMPARTMENT F6

FIELD



NOTES:

- 1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:	SIZE:
3ø - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:
TB2 - Weidmuller WSI6, WTR2.5 & WDU2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded

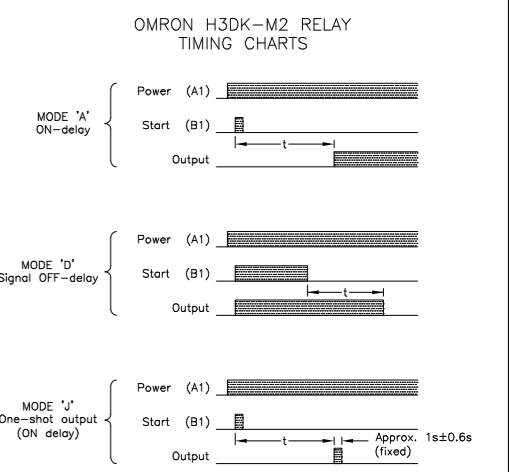
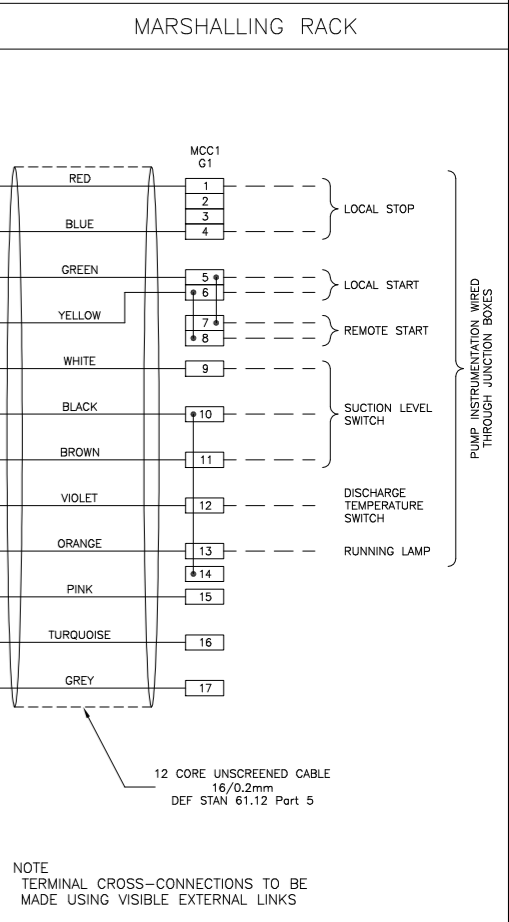
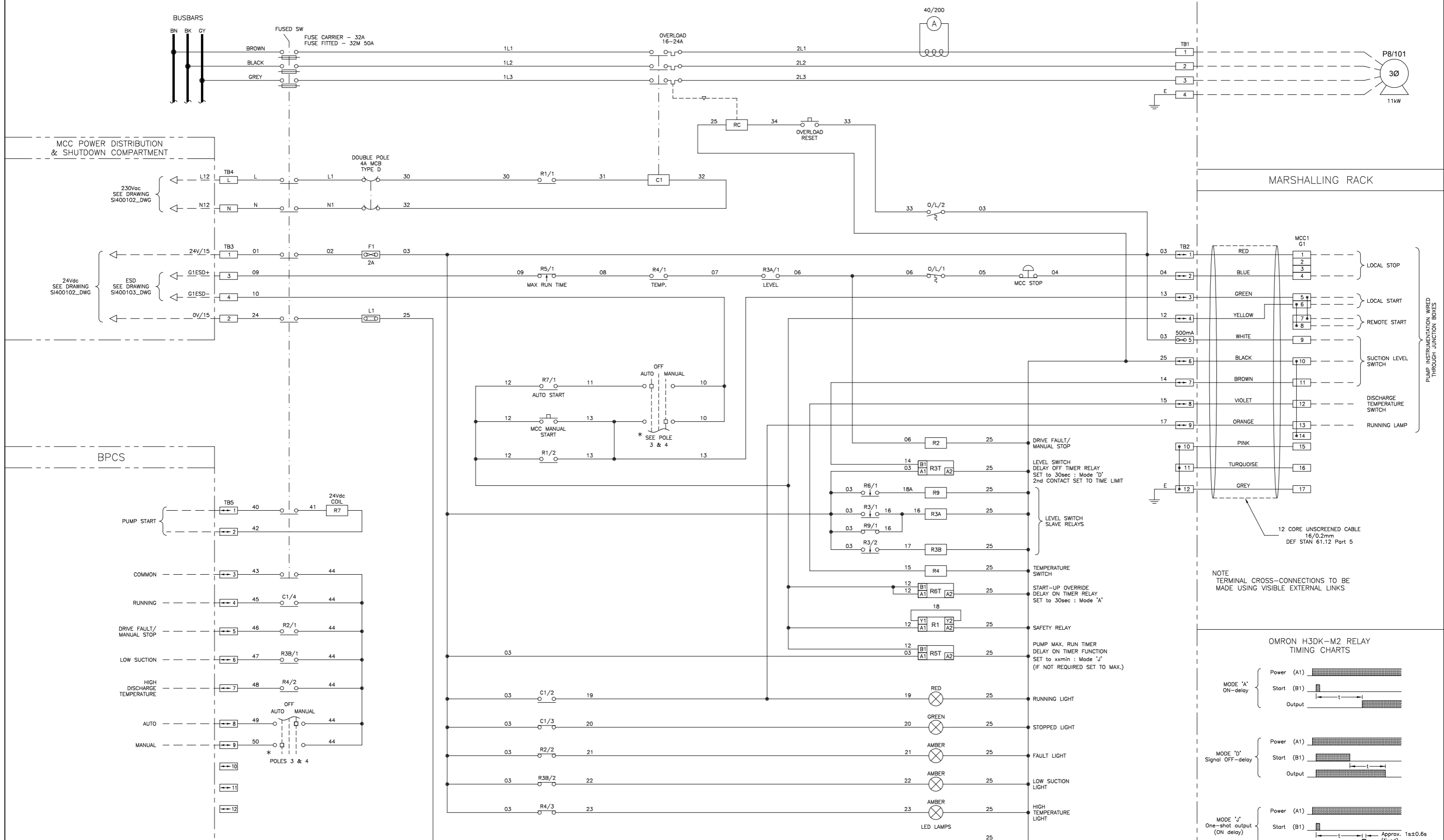


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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	
A	07/11/11	P.P.	P.P.	M.M.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT F6 DISTRIBUTION BOARD FEED WIRING DETAILS
	IMMINGHAM STORAGE Co. Ltd. IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E. LINCOLNSHIRE, DN40 2SU
	P & I Design Ltd Tel: 01642 617444 www.pidesign.co.uk
	SHEET 1 OF 1
CLIENT DRG. No.	P&I DRG No. SI400119_DWG

No.8A SWITCHROOM
MCC1 - COMPARTMENT G1

FIELD



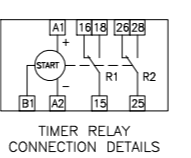
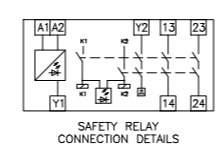
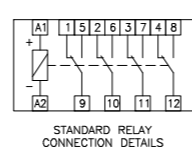
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

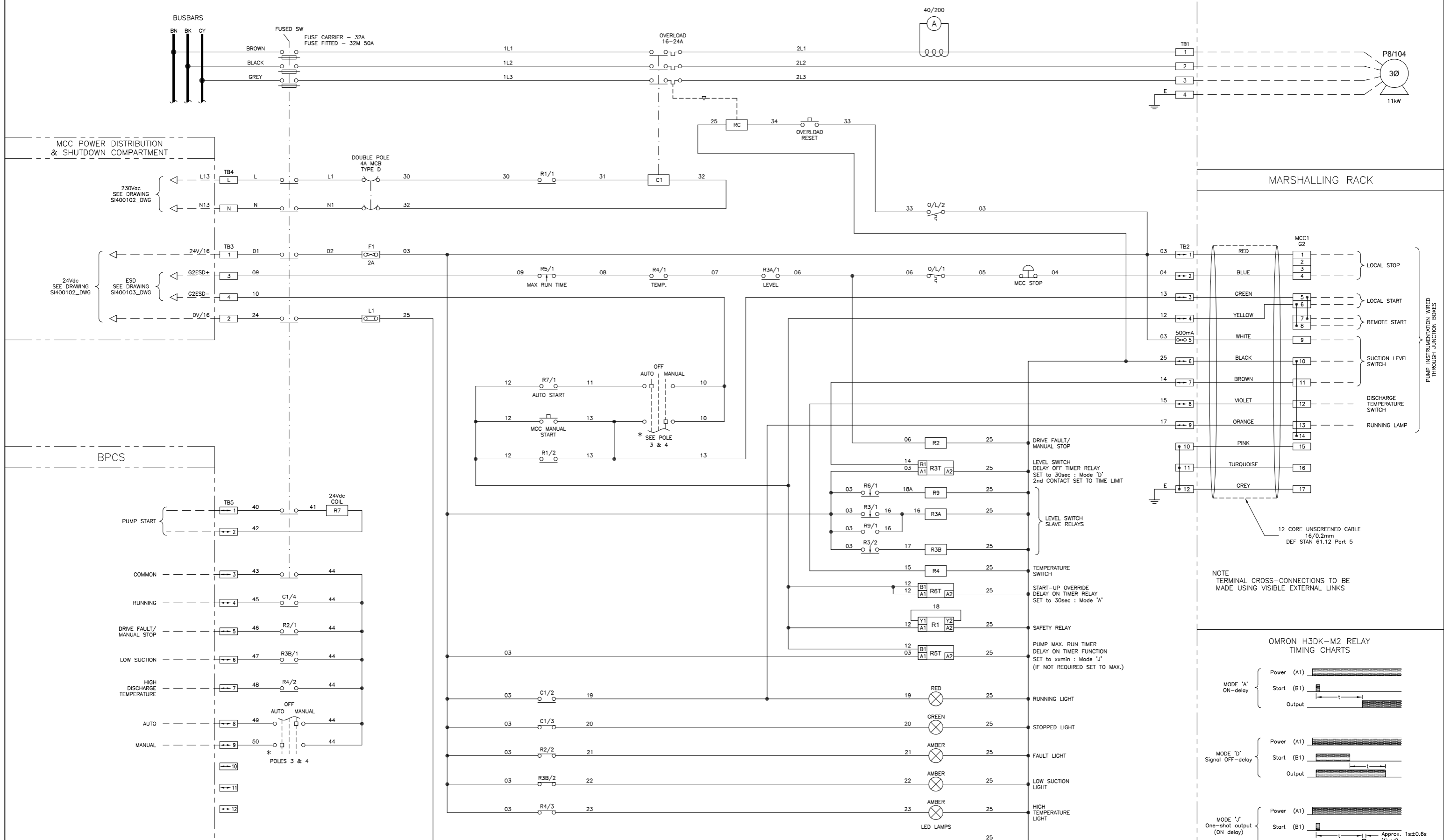
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	
A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	M.M.	LP122 TANK 35 - S1462 PROJECT
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT G1 (P8/101) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. S1400120_DWG

SHEET 1 OF 1

No.8A SWITCHROOM
MCC1 - COMPARTMENT G2

FIELD



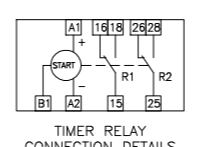
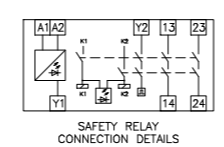
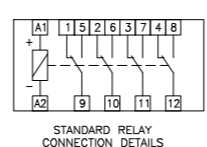
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vdc - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

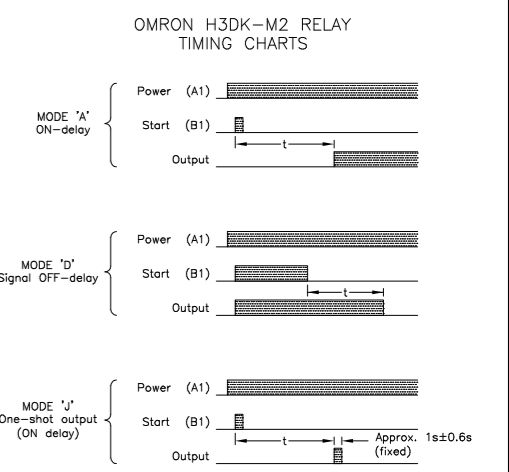
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	LP65 TANK 29 - SI462 PROJECT
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT G2 (P8/104) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400121_DWG



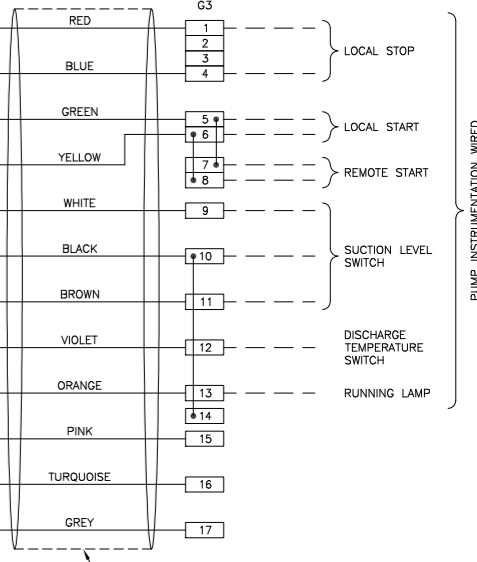
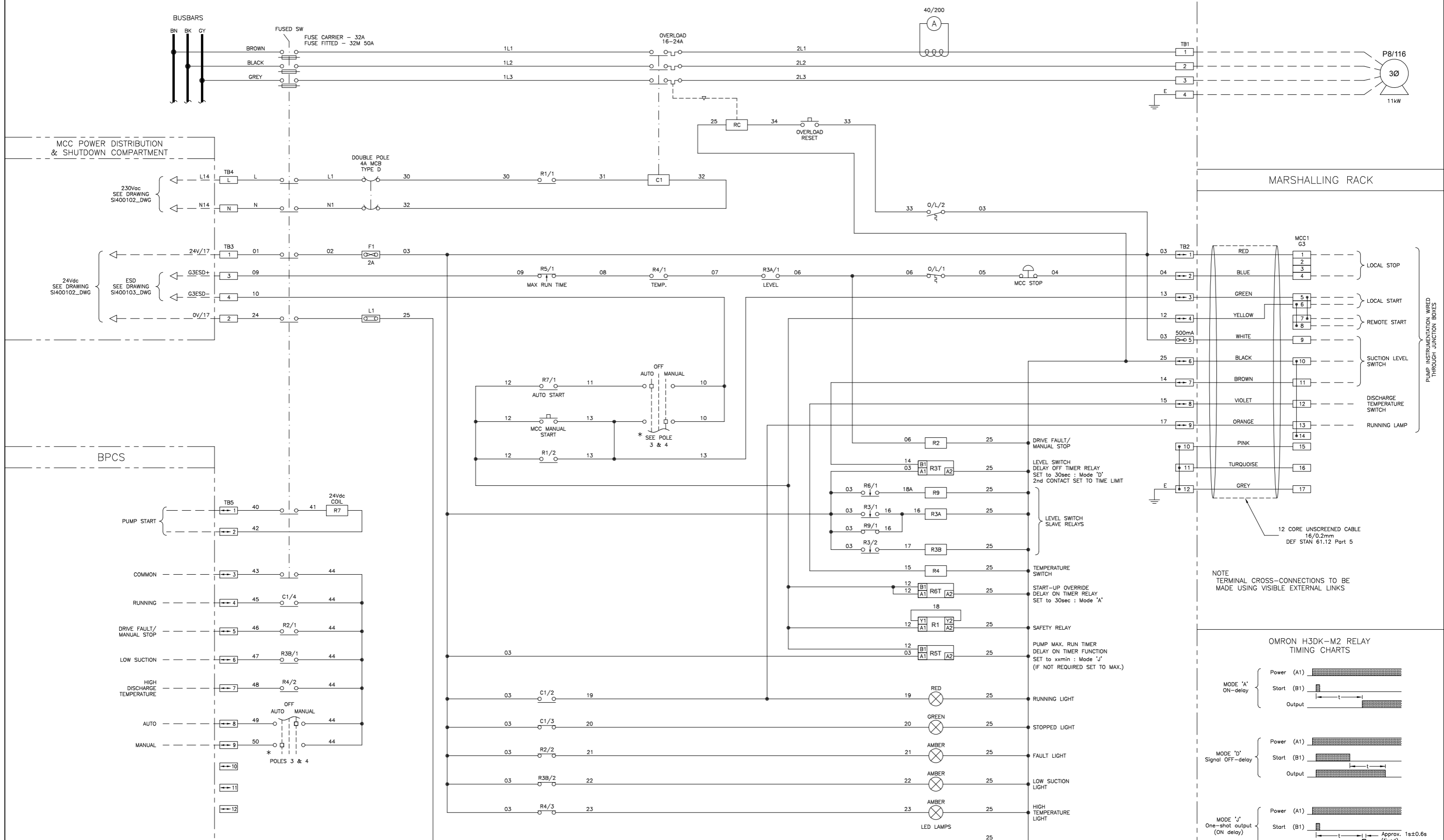
NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

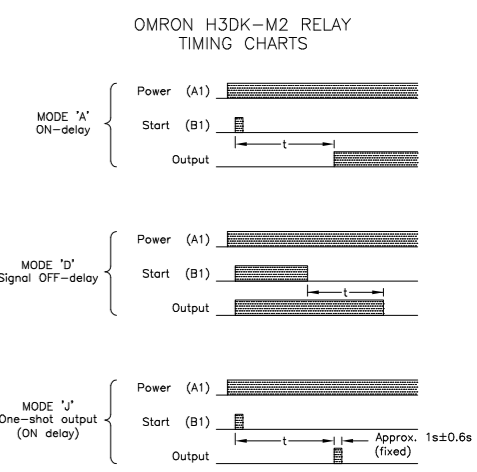
PUMP INSTRUMENTATION WIRED
THROUGH JUNCTION BOXES

No.8A SWITCHROOM
MCC1 - COMPARTMENT G3

FIELD



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS



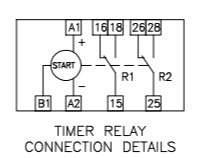
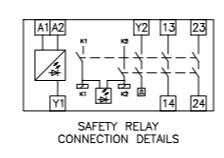
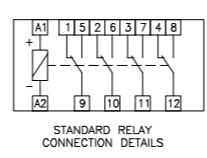
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	LP149 TANK 32 - S1462 PROJECT
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	AS BUILT

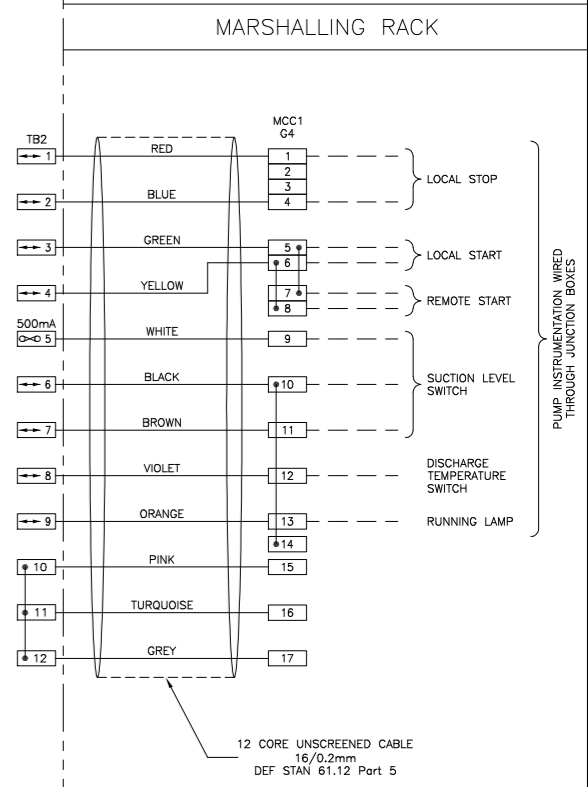
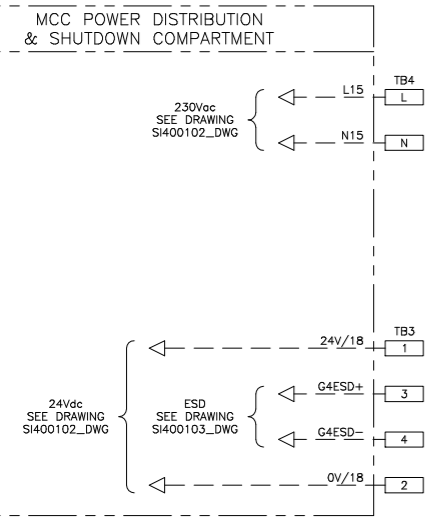
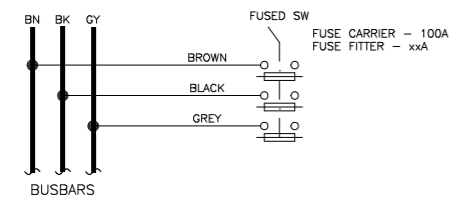
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT G3 (P8/116) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. S1400122_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC1 - COMPARTMENT G4

FIELD



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:	SIZE:
3φ - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION		
A	07/11/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.			AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT G4 (SPARE) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400123_DWG

SHEET 1 OF 1

MARSHALLING RACK

NOTES:
1) EXTERNAL WIRING SHOWN ---

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT H1 SPARE SPACE
	IMMINGHAM STORAGE Co. Ltd. IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E. LINCOLNSHIRE, DN40 2SU
	P & I Design Ltd Tel: 01642 617444 www.pidesign.co.uk
CLIENT DRG. No.	P&I DRG No. SI400124_DWG

No.8A SWITCHROOM
MCC1 - COMPARTMENT H2

FIELD

MARSHALLING RACK

NOTES:
1) EXTERNAL WIRING SHOWN ---

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

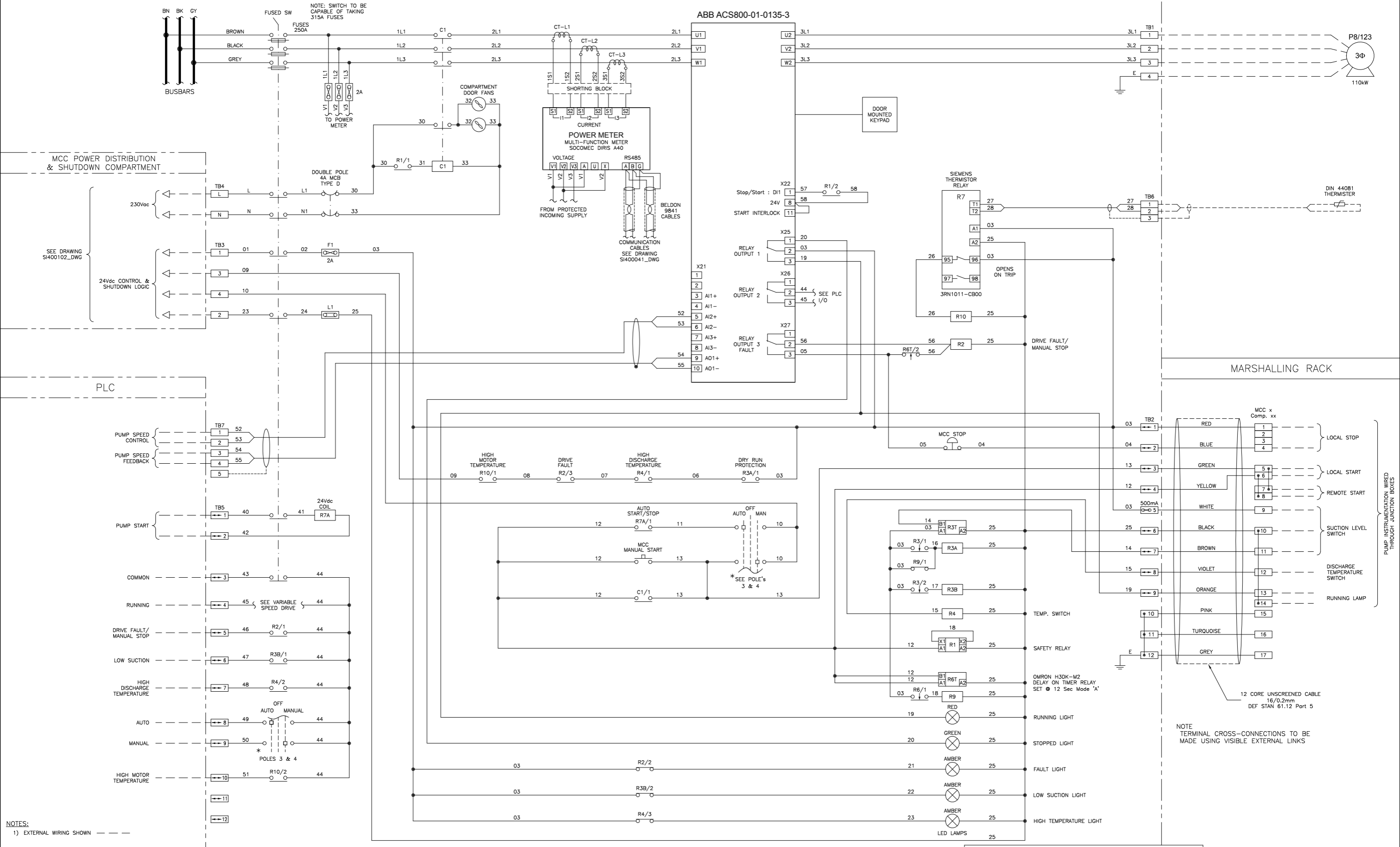


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A	07/11/11	P.P.	P.P.	M.M.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.		AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT H2 SPARE SPACE
	IMMINGHAM STORAGE Co. Ltd. IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E. LINCOLNSHIRE, DN40 2SU
	P & I Design Ltd Tel: 01642 617444 www.pidesign.co.uk
	SHEET 1 OF 1
CLIENT DRG. No.	P&I DRG No. SI400125_DWG

No.8A SWITCHROOM
MCC1 - COMPARTMENT I1

FIELD



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:

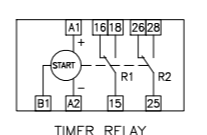
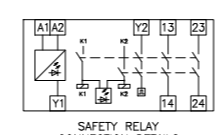
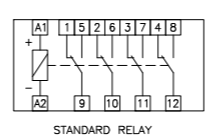
3φ - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²

TERMINALS:

TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6, WTR2.5 & WDU2.5
TB3 - Weidmuller WDU2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

RELAYS:

- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0940
BASE :-
FINDER TYPE 94.04.0
- TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	13/03/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT (FROM SI400035_DWG)

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC1 COMPARTMENT I1 (P8/123) VSD WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400126_DWG

SIMON BANGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E. LINCOLNSHIRE, DN49 2DU

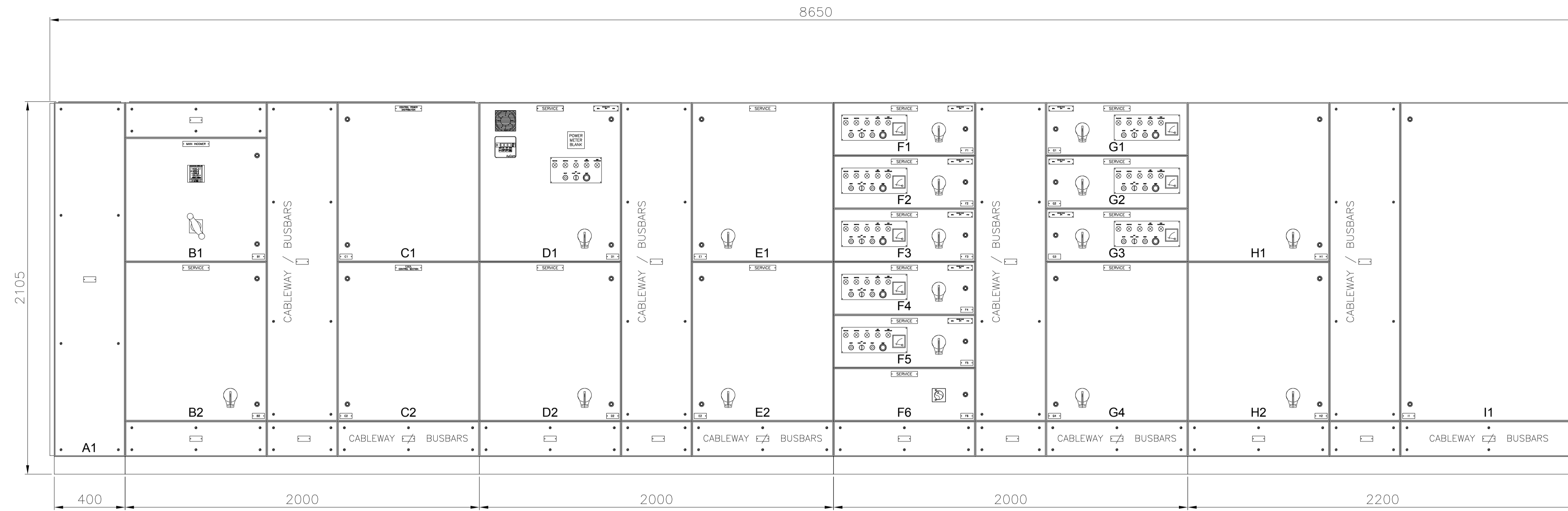
P & I Design Ltd
Tel. 01642 617444
www.pidesign.co.uk

SHEET 1 OF 1

Section 5

MCC2





PAINT FINISH	GREY TO RAL 7035
LABELS	W/B/W TRAFFOLITE
PROTECTION	IP54
CLASSIFICATION	FORM 4
	TYPE 2
BOARD ACCESS	FRONT
CABLE INCOMING	TOP ENTRY
	SIZE: T.B.C.
	TYPE: T.B.C.
CABLE OUTGOING	TOP EXIT
INCOMING GLAND PLATE	ALUMINIUM
OUTGOING GLAND PLATE	ALUMINIUM
MAINS SUPPLY	433V 50Hz TP&N
CONTROL SUPPLY	230V/400V
FAULT RATING	50kA/1sec
BUSBARS	UNTINNED
BUSBARS (HORIZONTAL)	FROM FRONT N, L1, L2, L3
	RATING 800A
BUSBARS (RISERS)	FROM FRONT N, L1, L2, L3
	RATING 800A
EARTH BAR	INTERNAL
NEUTRAL BAR	INTERNAL
NEUTRAL / EARTH	REMOTE
EXTENDABLE	RHS ONLY
LOCKS	
KEY No.	

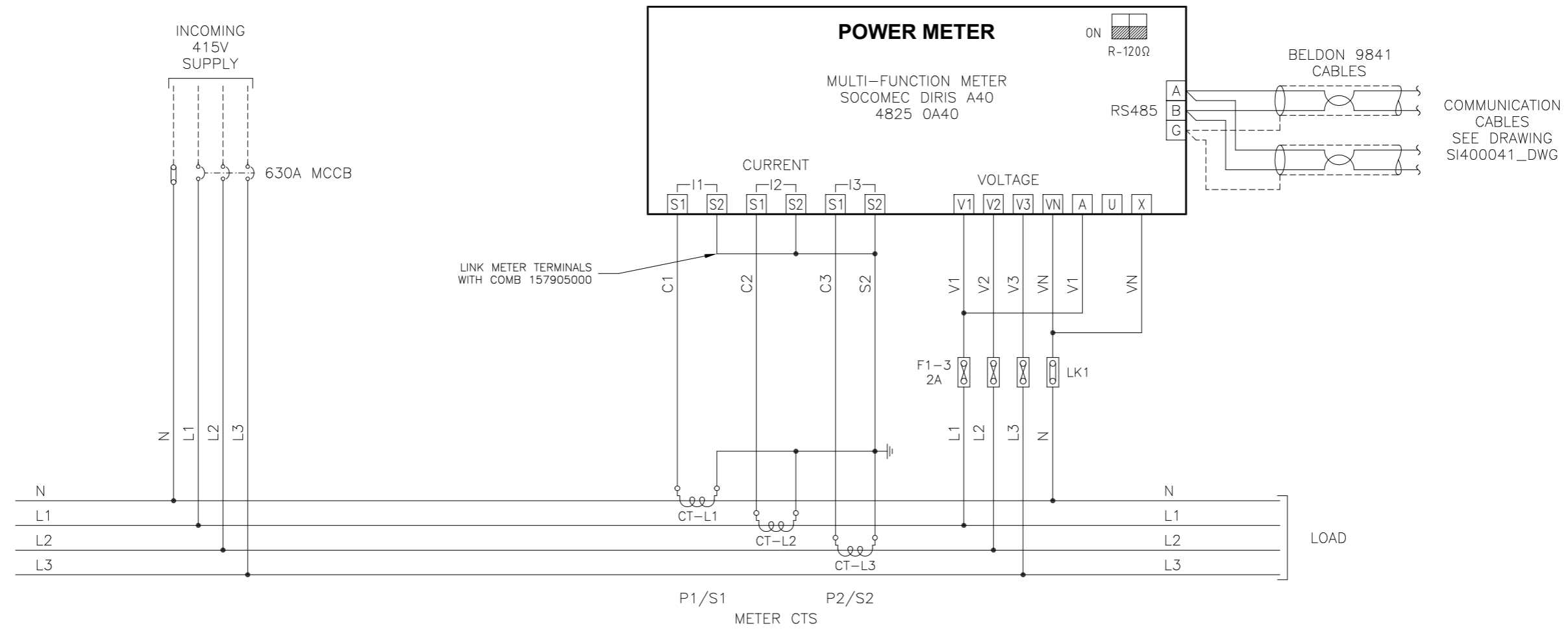
REF	SERVICE	DRIVE REF.	RATING	COMPARTMENT WIRING DIAGRAMS
A1	MARSHALLING SECTION			
B1	MAIN INCOMER		630A	SI400151_DWG
B2	FUTURE S/S (FUSE SWITCH FITTED)	P8/xxx	---	SI400159_DWG
C1	CONTROL POWER 24Vdc DISTRIBUTION			SI400152_DWG
C2	ESD			SI400153_DWG
D1	TANK 33 LOADING PUMP	P8/105	18.5kW S/S	SI400160_DWG
D2	FUTURE S/S (FUSE SWITCH FITTED)	P8/xxx	---	SI400161_DWG
E1	FUTURE S/S (FUSE SWITCH FITTED)	P8/xxx	---	SI400162_DWG
E2	FUTURE S/S (FUSE SWITCH FITTED)	P8/xxx	---	SI400163_DWG
F1	P49 HTW09A HOTWATER PUMP	P8/109	3kW DOL	SI400164_DWG
F2	P45 HTW09B HOTWATER PUMP	P8/110	3kW DOL	SI400165_DWG
F3	P47A HOTWATER PUMP	P8/111	1.1kW DOL	SI400166_DWG
F4	P47B HOTWATER PUMP	P8/112	1.1kW DOL	SI400167_DWG
F5	S14 SUMP PUMP	P8/118	1.1kW DOL	SI400168_DWG
F6	FEED TO DISTRIBUTION BOARD	---	160/125A	SI400169_DWG
G1	P170A TANK 106 LOADING PUMP	P8/114	11kW DOL	SI400170_DWG
G2	P170B TANK 106 LOADING PUMP	P8/115	11kW DOL	SI400171_DWG
G3	G19 WATER PUMP	P8/117	7.5kW DOL	SI400172_DWG
G4	FUTURE S/S (FUSE SWITCH FITTED)	P8/xxx	---	SI400173_DWG
H1	SPARE SPACE	---		SI400174_DWG
H2	SPARE SPACE	---		SI400175_DWG
I1	SPARE SPACE	---		SI400176_DWG



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION		
A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	13/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	P.P.	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	13/03/14	D.B.F	P.P.	D.B.F	M.M.			AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 PANEL LAYOUT
	P & I Design Ltd IMMINGHAM STORAGE Co. Ltd, IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E., LINCOLNSHIRE, DN40 2DU
CLIENT DRG. No.	Tel. 01642 617444 www.pidesign.co.uk SHEET 1 OF 1 P&I DRG No. SI400150_DWG

No.8A SWITCHROOM
MCC2 : COMPARTMENT B1



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION		
A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	11/04/14	P.P.	P.P.	D.B.F	M.M.			AS BUILT

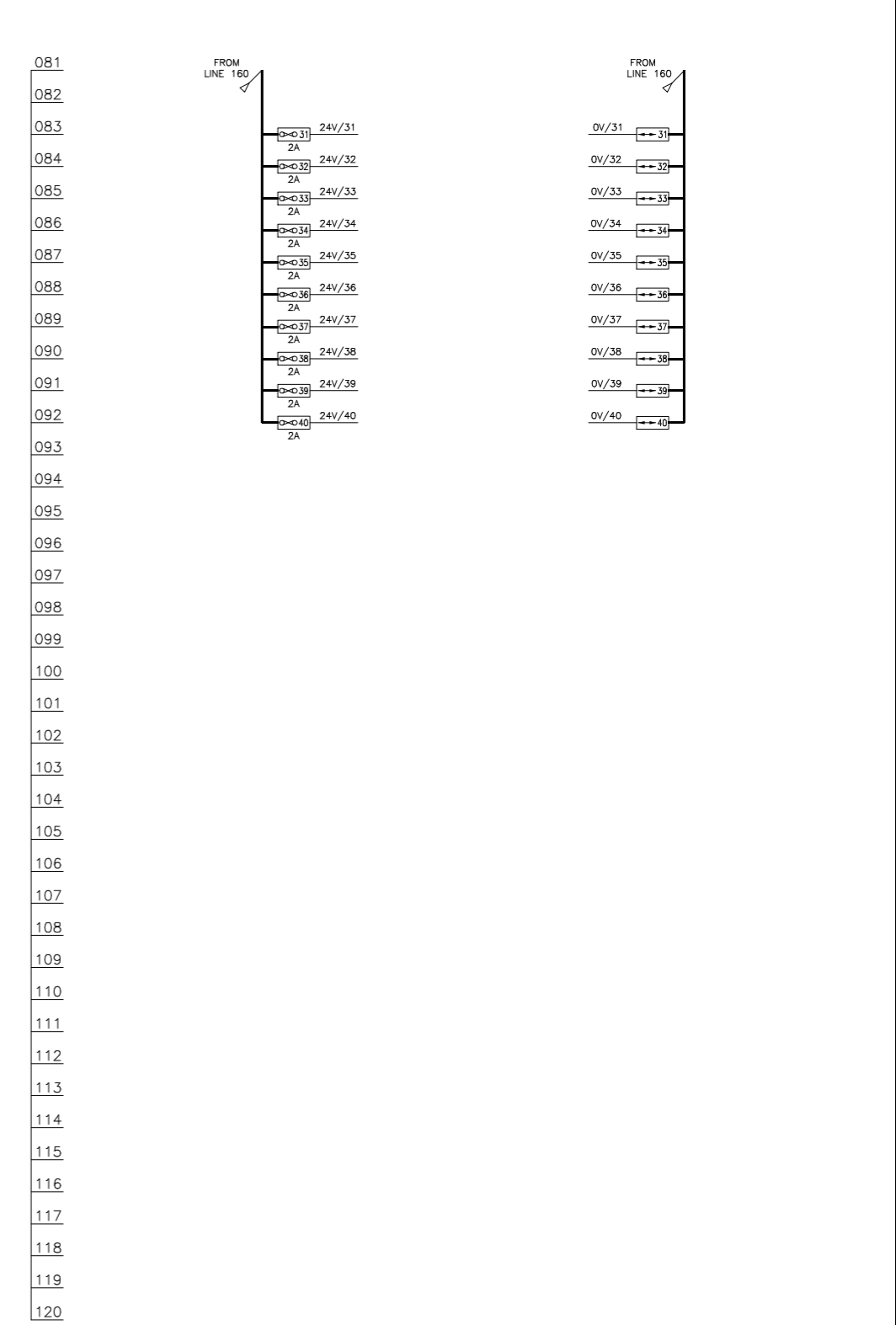
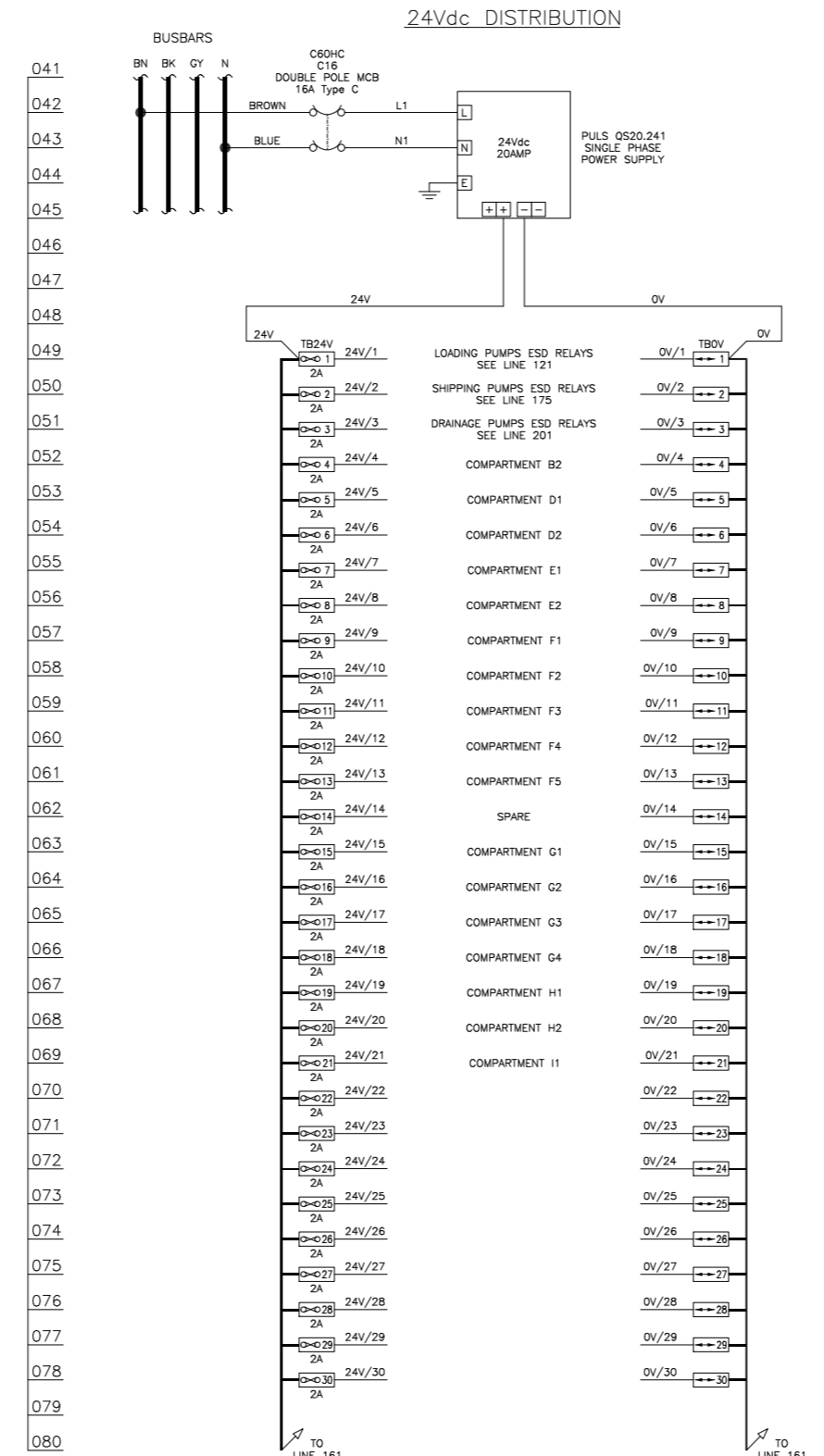
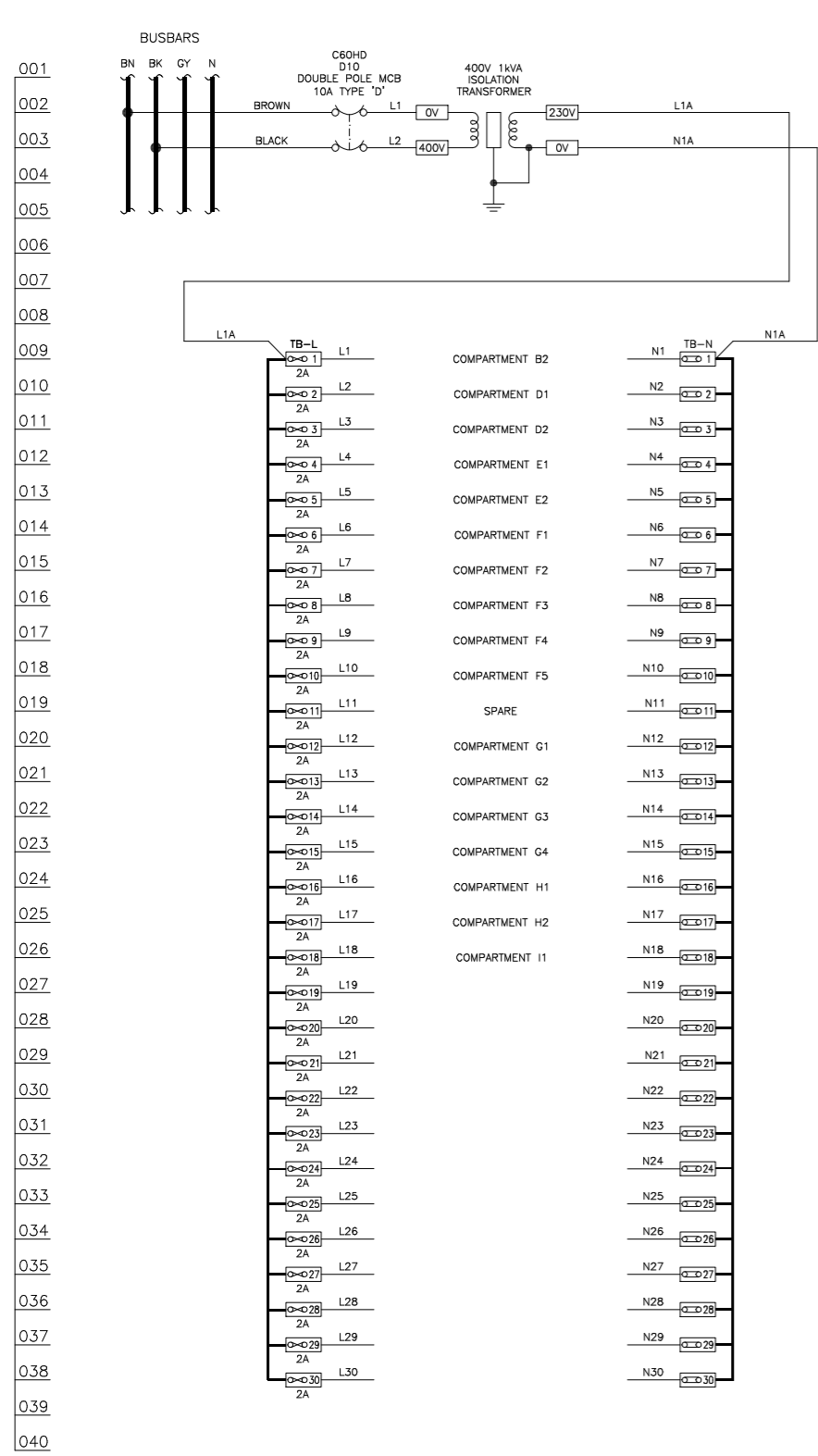
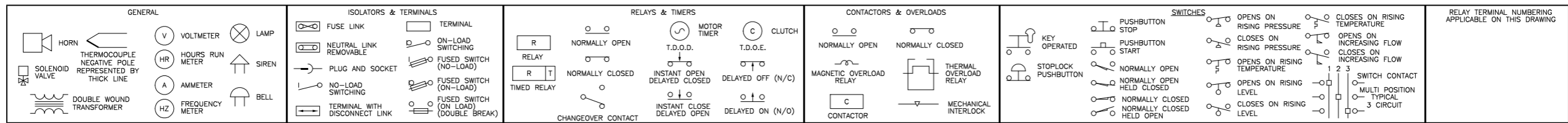
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT B1 INCOMER WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400151_DWG



SIMON IMMINGHAM STORAGE Co. Ltd.
 IMMINGHAM WEST TERMINAL
 WEST RIVERSIDE,
 IMMINGHAM DOCK,
 IMMINGHAM,
 N.E. LINCOLNSHIRE,
 DN40 2SU

P & I DESIGN P & I Design Ltd
 Tel. 01642 617444
 www.pidesign.co.uk

LEGEND OF GRAPHICAL SYMBOLS (ALL CONTACTS SHOWN IN THE DE-ENERGISED STATE)



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION		
A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	07/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	11/04/14	P.P.	P.P.	D.B.F				AS BUILT



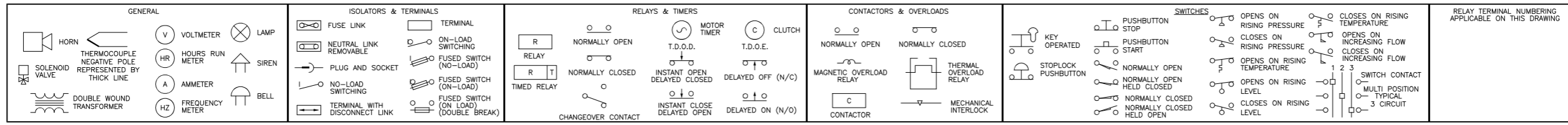
PLANT: IMMINGHAM STORAGE Co. - WEST TERMINAL
 TITLE: No.8A SWITCHROOM - MCC2 COMPARTMENT G1 CONTROL POWER WIRING DETAILS

IMMINGHAM STORAGE Co. Ltd.
 IMMINGHAM WEST TERMINAL
 WEST RIVERSIDE,
 IMMINGHAM DOCK,
 IMMINGHAM,
 N.E. LINCOLNSHIRE,
 DN40 2SU

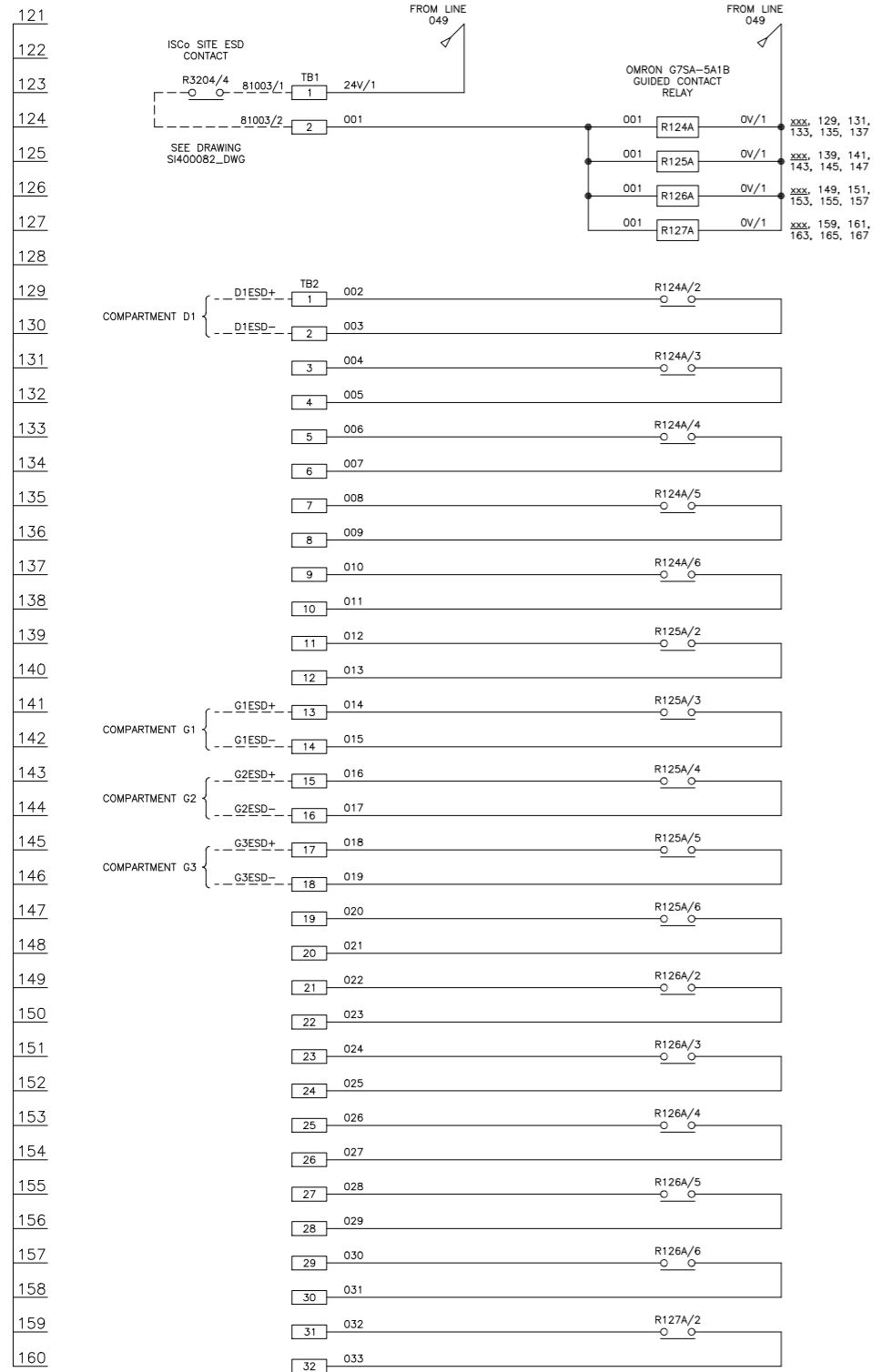
P & I Design Ltd
 Tel. 01642 617444
 www.pidesign.co.uk

SHEET 1 OF 1
 CLIENT DRG. No. P&I DRG No. SI400152_DWG

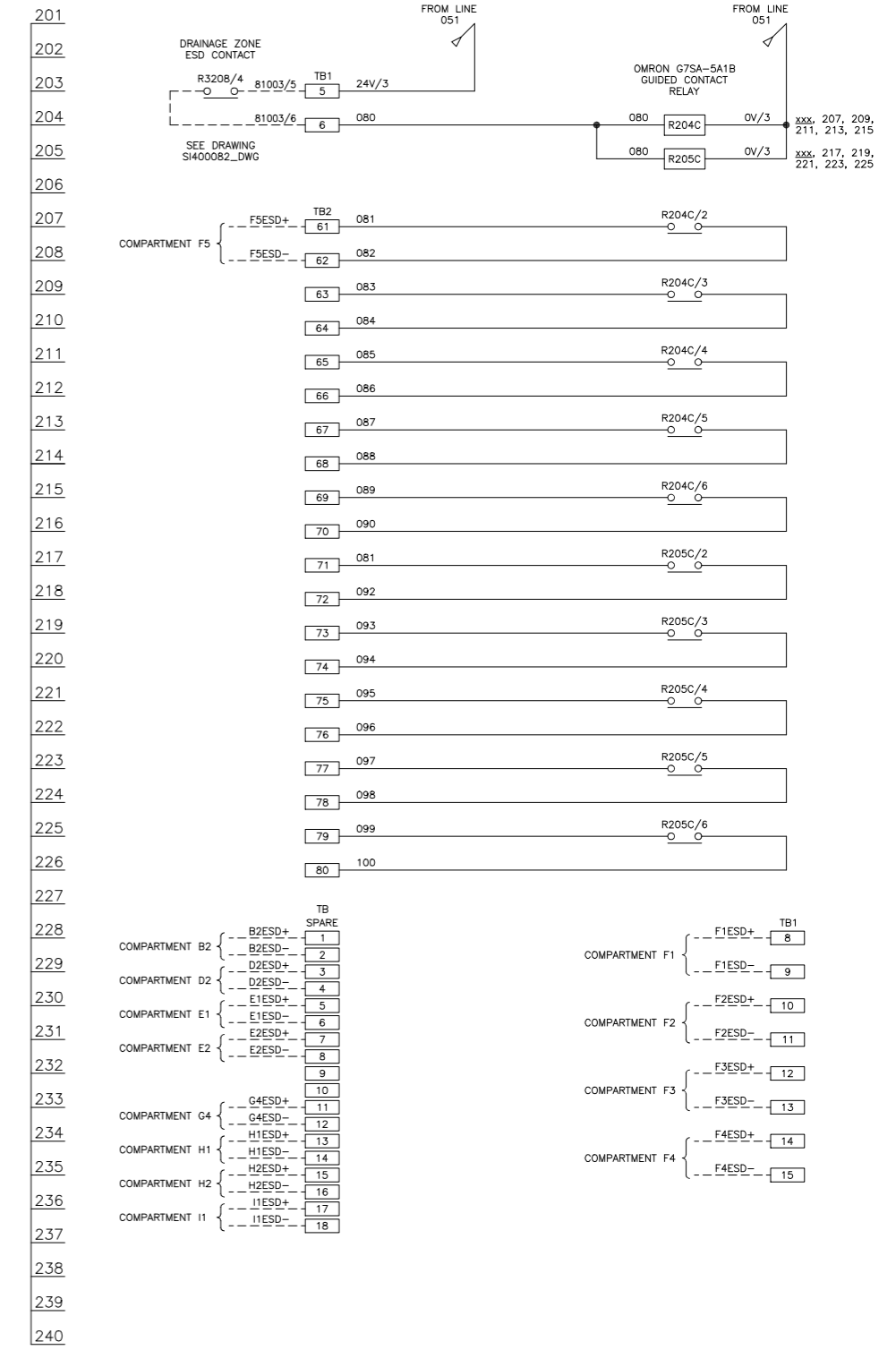
LEGEND OF GRAPHICAL SYMBOLS (ALL CONTACTS SHOWN IN THE DE-ENERGISED STATE)



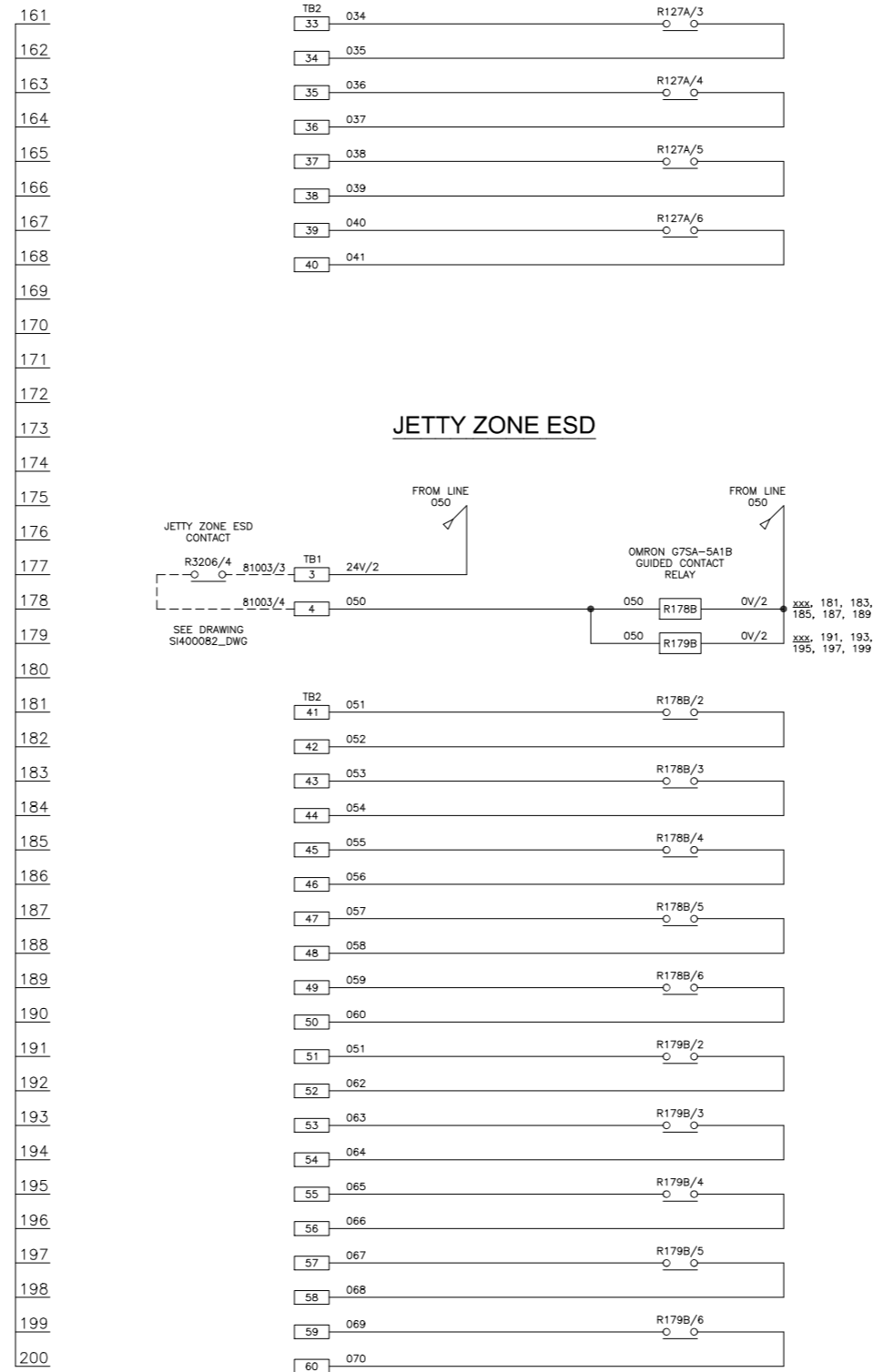
ISCo SITE ESD



DRAINAGE ZONE ESD



JETTY ZONE ESD



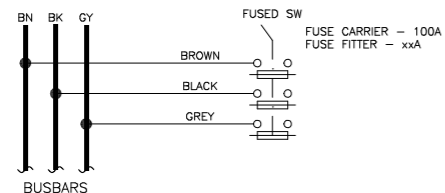
IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
A	16/02/11	P.P.	P.P.	S.M.	S.M.	M.M.	M.M.	ISSUED FOR TENDER
B	13/07/11	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	ISSUED FOR CONSTRUCTION
C	07/09/11	D.B.F	D.A.Y	M.M.	M.M.	M.M.	M.M.	FAT UPDATE
D	03/01/13	I.E.S	P.P.	M.M.	M.M.	M.M.	M.M.	HOT WATER PUMPS REMOVED FROM ESD
E	11/04/14	P.P.	P.P.	D.B.F	D.B.F	M.M.	M.M.	AS BUILT
F	13/02/15	P.P.	P.P.	D.B.F	D.B.F	M.M.	M.M.	AS BUILT - SI432 PHASE 2
G	18/05/16	P.P.	P.P.	M.M.	M.M.	M.M.	M.M.	AS BUILT - SI432 PROJECT

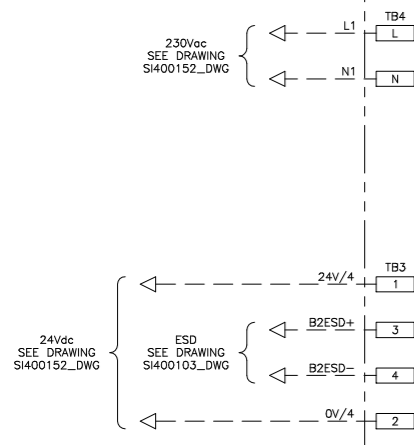
CLIENT DRG. No.	IMMINGHAM STORAGE Co. Ltd Immingham West Terminal West Riverside Immingham Dock Immingham N.E. Lincolnshire DN40 2GU
P&I DESIGN	P & I Design Ltd Tel. 01642 617444 www.pidesign.co.uk
SHEET 1 OF 1	P&I DRG No. SI400153_DWG

No.8A SWITCHROOM
MCC2 - COMPARTMENT B2

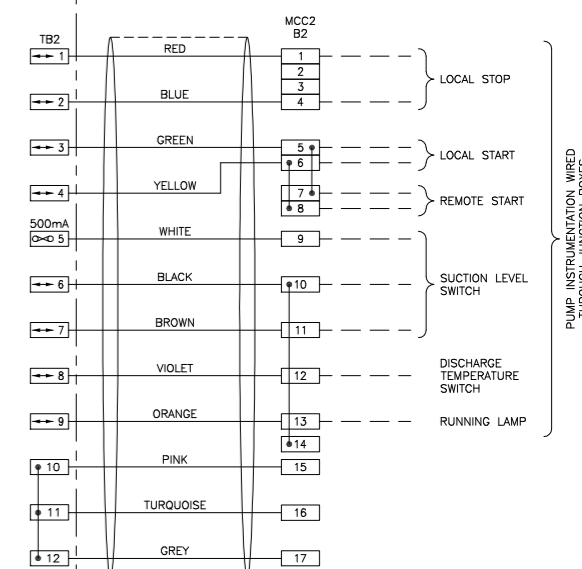
FIELD



MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT



MARSHALLING RACK



12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:	SIZE:
3ø - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	
A	07/11/11	P.P.	P.P.	M.M.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.		AS BUILT

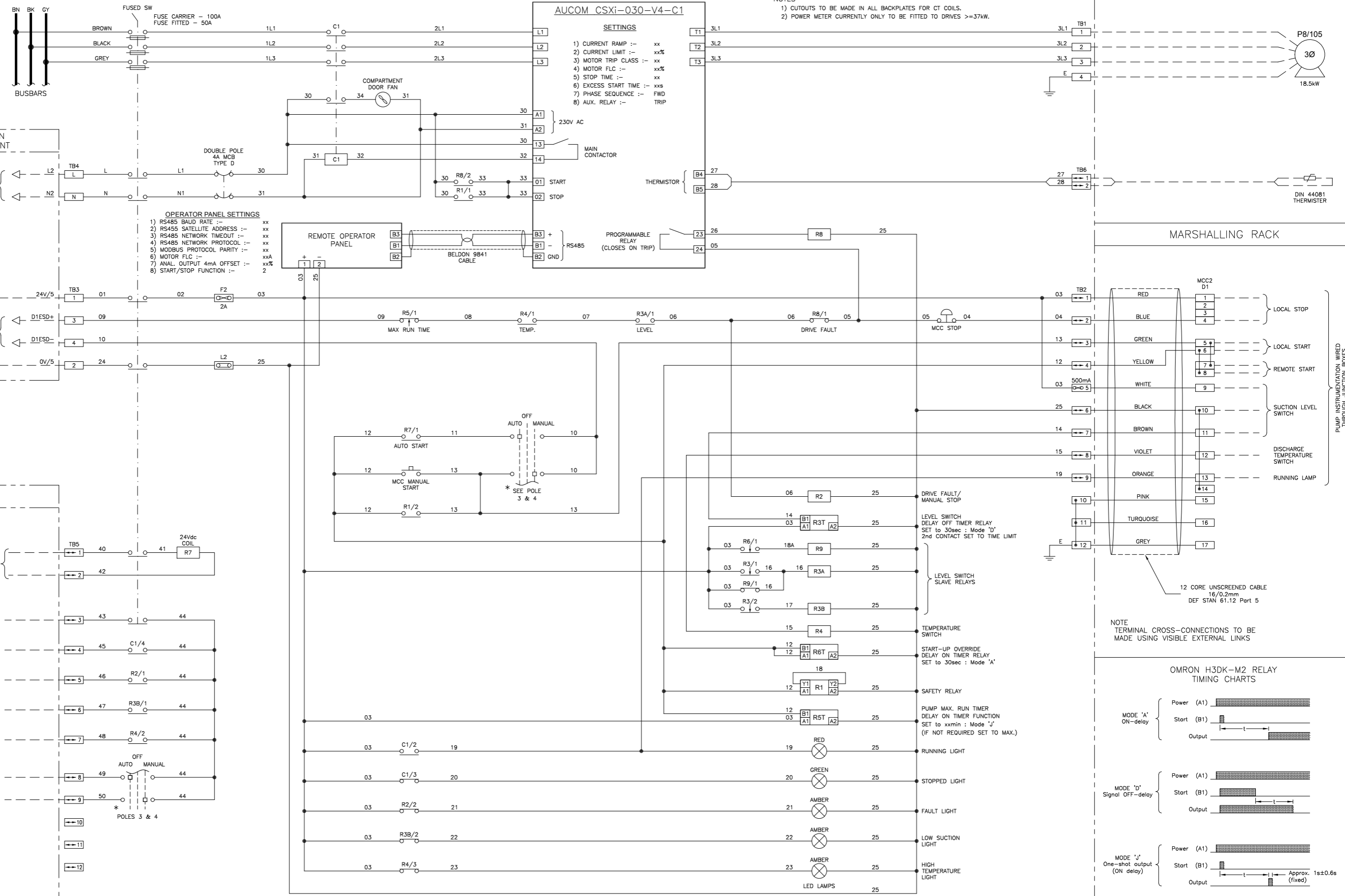
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT B2 (SPARE) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400159_DWG

P & I Design Ltd
Tel. 01642 617444
www.pidesign.co.uk

SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT D1

FIELD

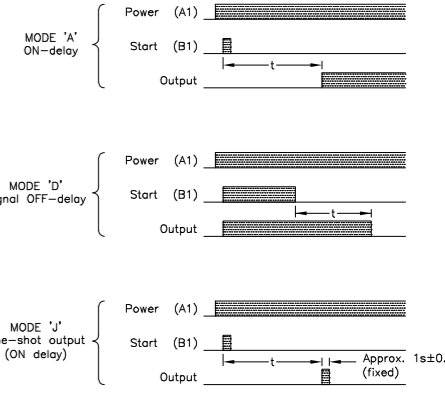


NOTES
1) CUTOUPS TO BE MADE IN ALL BACKPLATES FOR CT COILS.
2) POWER METER CURRENTLY ONLY TO BE FITTED TO DRIVES >=37kW.

OPERATOR PANEL SETTINGS
1) RS485 BAUD RATE :- xx
2) RS485 SATELLITE ADDRESS :- xx
3) RS485 NETWORK TIMEOUT :- xx
4) RS485 NETWORK PROTOCOL :- xx
5) MODBUS PROTOCOL PARITY :- xx
6) MOTOR FLC :- xxA
7) ANAL. OUTPUT 4mA OFFSET :- xx%
8) START/STOP FUNCTION :- 2

NOTE
TERMINAL CROSS-CONNECTIONS TO BE MADE USING VISIBLE EXTERNAL LINKS

OMRON H3DK-M2 RELAY TIMING CHARTS



NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:

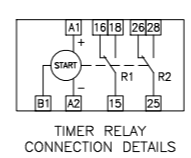
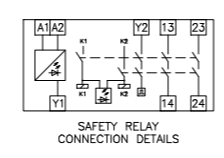
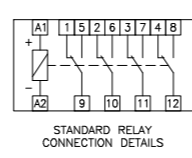
3ø - PHASE COLOURS	SIZE:
230Vac - BROWN	TO SUIT MOTOR LOAD
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.5mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:

TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

RELAYS:

1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :- FINDER TYPE 55.34.9.024.0.0094 BASE :- FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

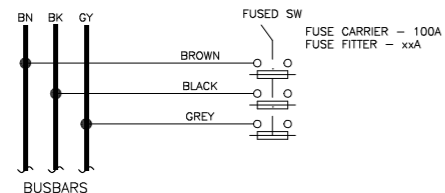
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A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	LP175 TANK 35 - S1462 PROJECT
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT D1 (P8/105) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. S1400160_DWG

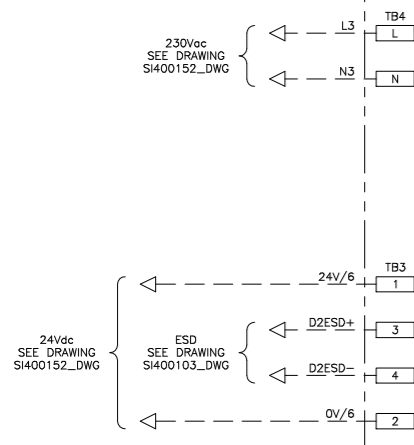


No.8A SWITCHROOM
MCC2 - COMPARTMENT D2

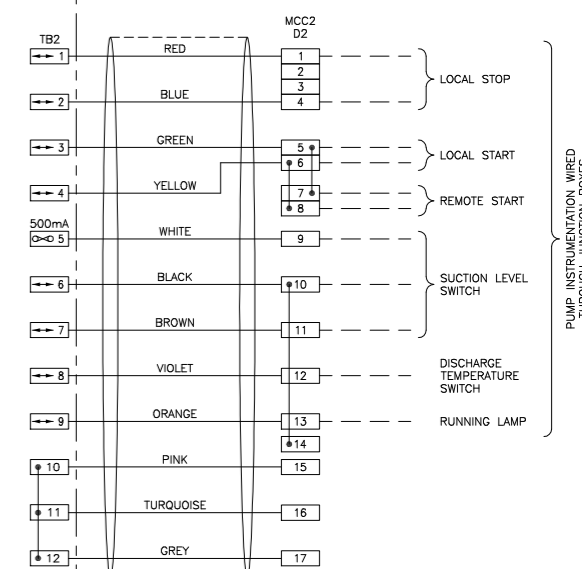
FIELD



MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT



MARSHALLING RACK



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:	SIZE:
3ø - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED						
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

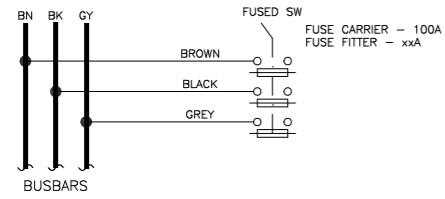
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT D2 (SPARE) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400161_DWG



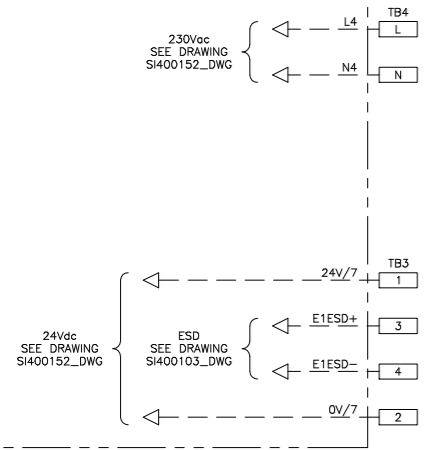
SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT E1

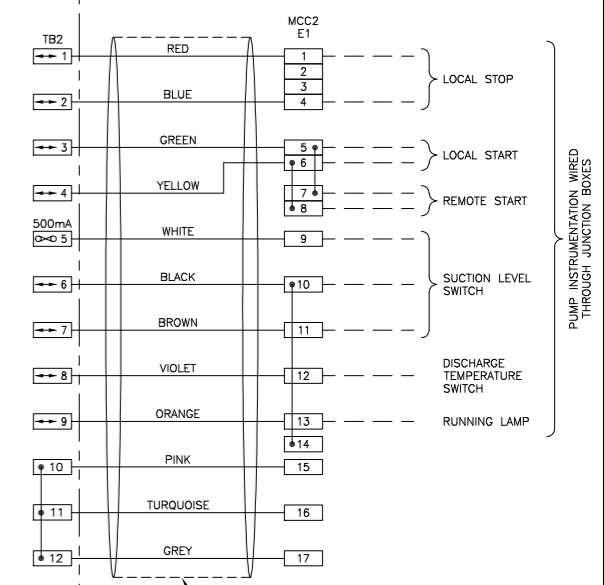
FIELD



MCC POWER DISTRIBUTION
& SHUTDOWN COMPARTMENT



MARSHALLING RACK



12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT E1 (SPARE) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400162_DWG

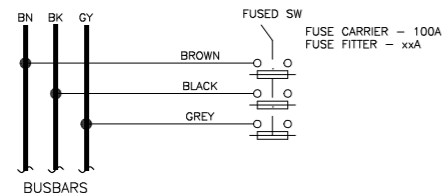
IMMINGHAM STORAGE Co. Ltd.
IMMINGHAM WEST TERMINAL,
WEST RIVERSIDE,
IMMINGHAM DOCK,
IMMINGHAM,
N.E. LINCOLNSHIRE,
DN40 2SU

P & I DESIGN
P & I Design Ltd
Tel. 01642 617444
www.pidesign.co.uk

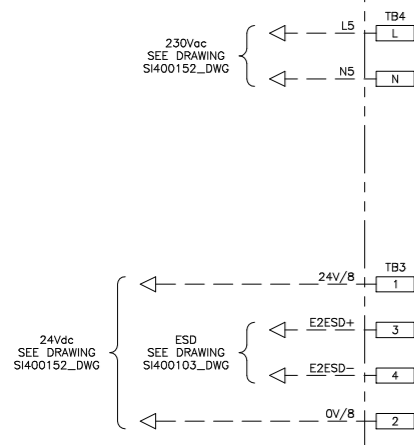
SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT E2

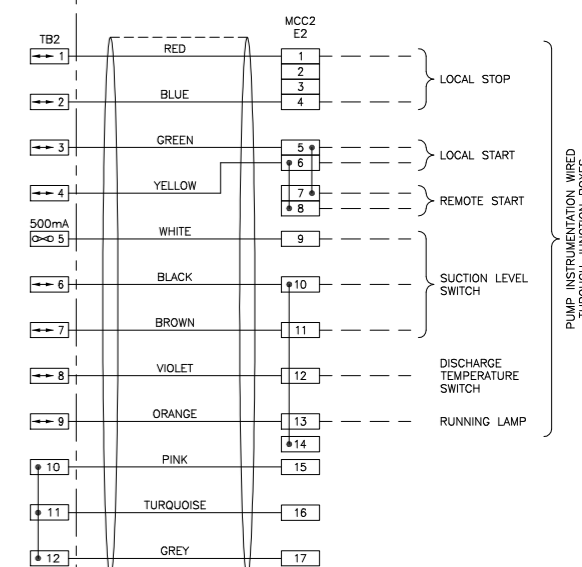
FIELD



MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT



MARSHALLING RACK



12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:	SIZE:
3ø - PHASE COLOURS	TO SUIT MOTOR LOAD
230Vac - BROWN	1.5mm ²
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.0mm ²
0Vdc CONTROL - BLACK	1.0mm ²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION	
A	07/11/11	P.P.	P.P.	M.M.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.		AS BUILT

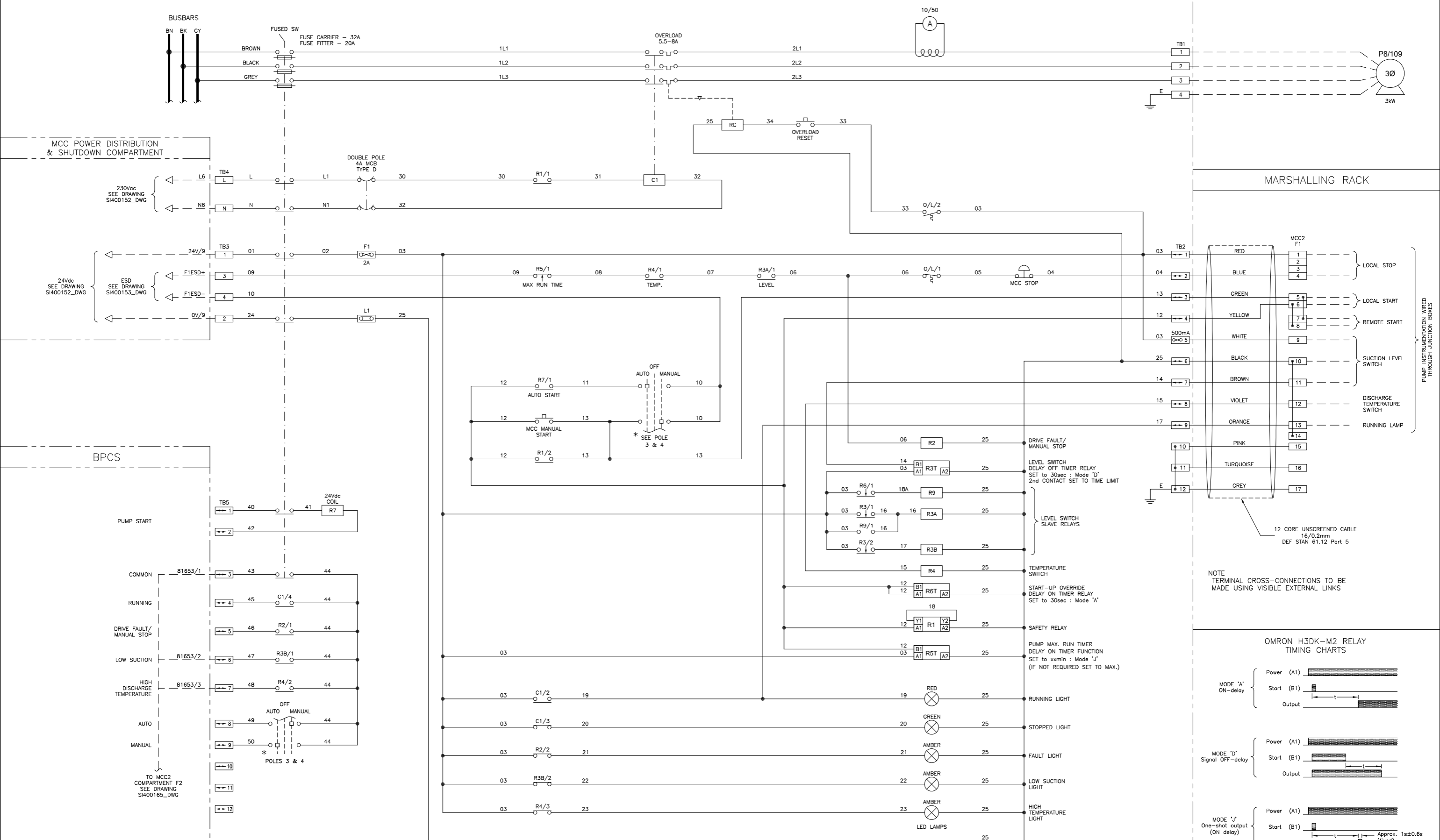
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT E2 (SPARE) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400163_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT F1

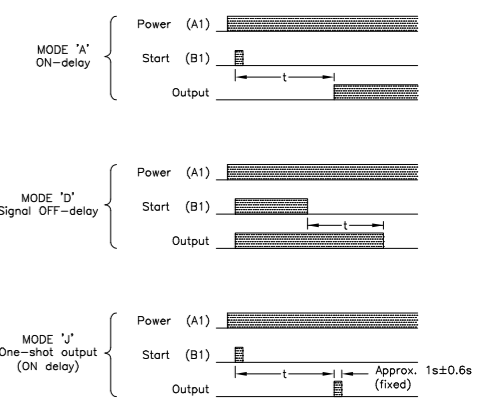
FIELD



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

OMRON H3DK-M2 RELAY
TIMING CHARTS

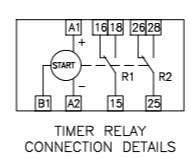
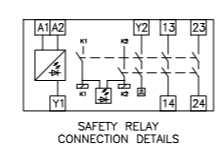
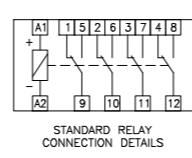


CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

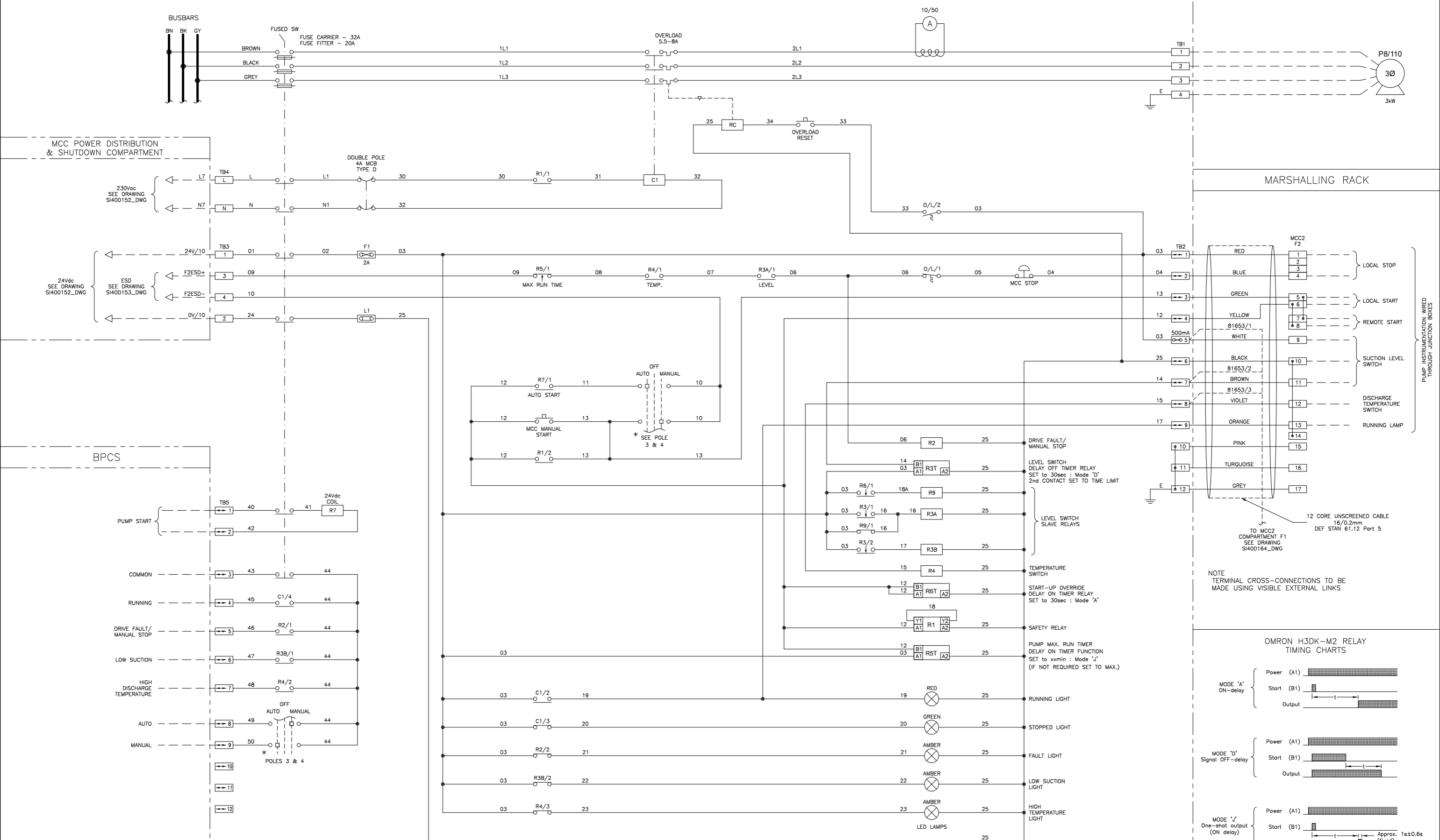
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT F1 (P8/109) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400164_DWG

SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT F2

FIELD



NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

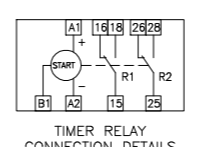
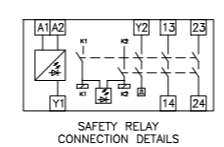
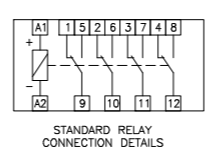
CABLE COLOURS:

3φ - PHASE COLOURS	SIZE:
230Vac - BROWN	TO SUIT MOTOR LOAD
NEUTRAL - BLUE	1.5mm ²
24Vdc CONTROL - WHITE	1.5mm ²
0Vdc CONTROL - BLACK	1.0mm ²
	1.0mm ²

TERMINALS:

TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

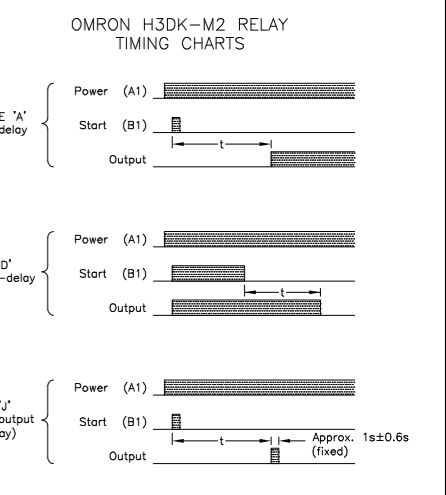
- RELAYS:**
- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
 - TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	11/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT F2 (P8/110) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400165_DWG



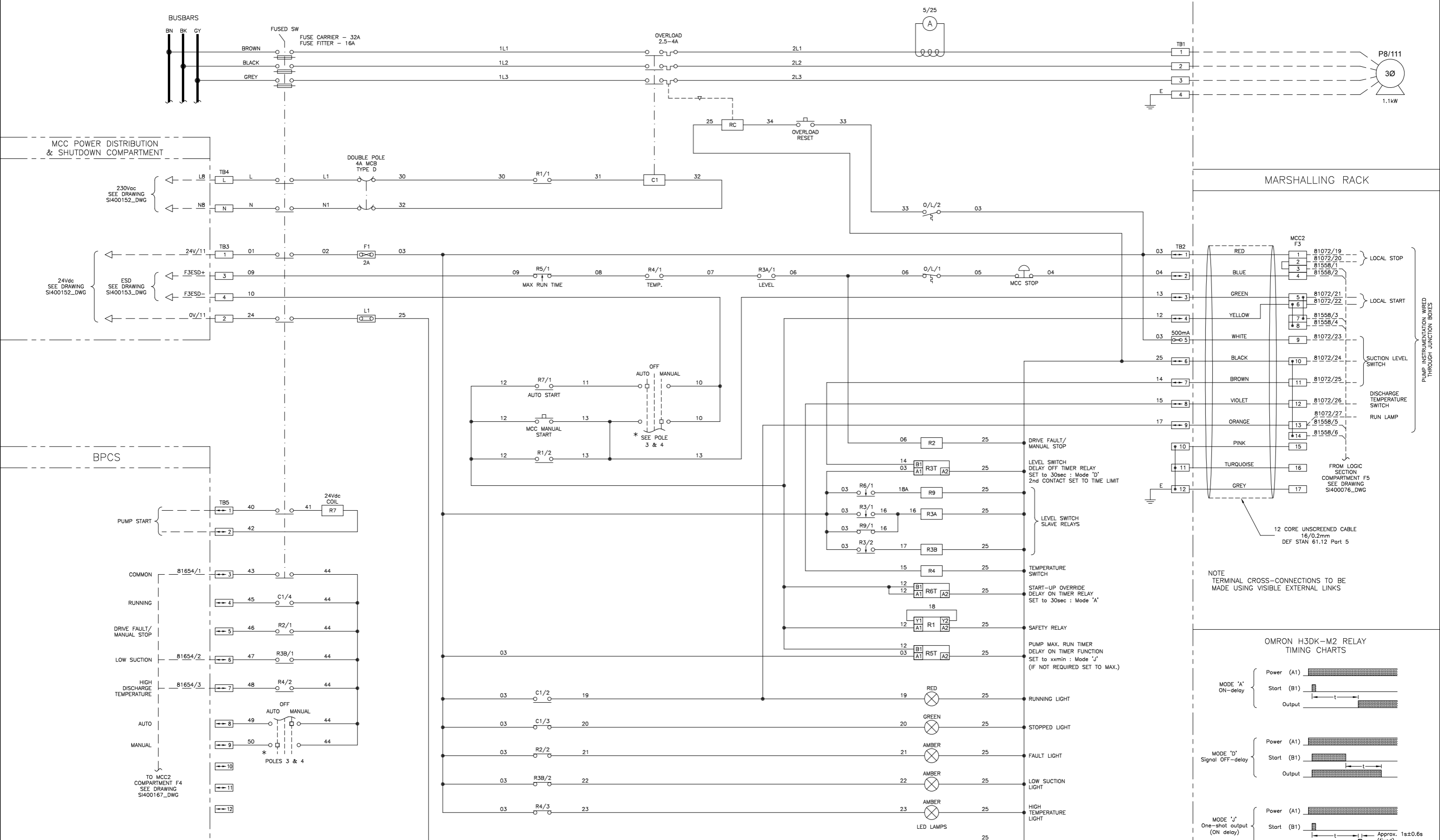
NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

12 CORE UNSCREENED CABLE
16/0.2mm
DEF STAN 61.12 Part 5
TO MCC2 COMPARTMENT F1
SEE DRAWING SI400164_DWG

PUMP INSTRUMENTATION WIRED THROUGH JUNCTION BOXES

No.8A SWITCHROOM
MCC2 - COMPARTMENT F3

FIELD



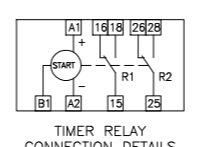
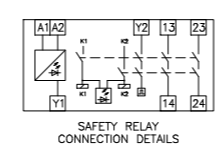
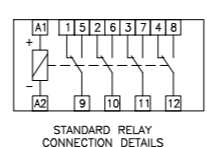
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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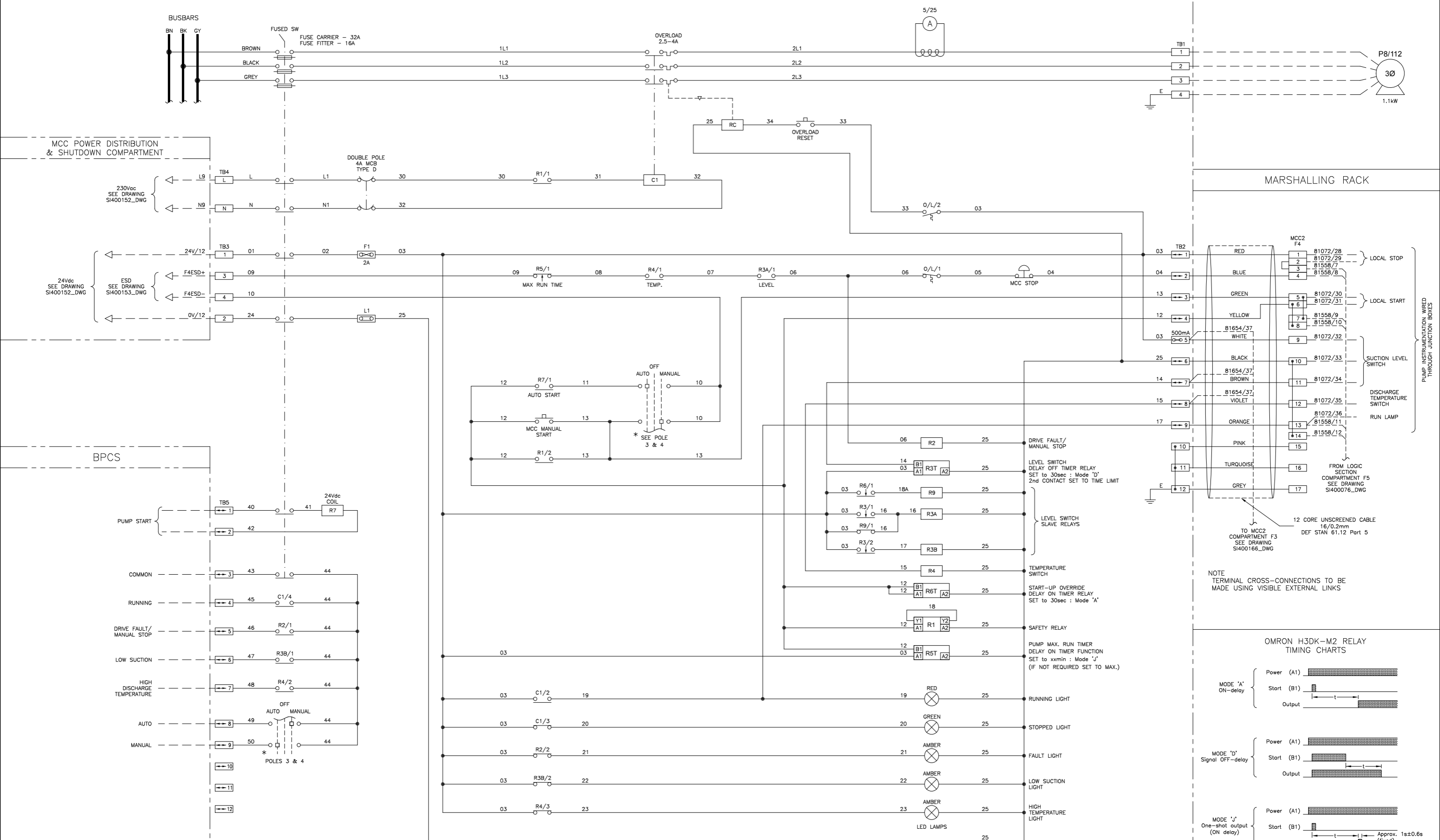
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	30/07/12	P.P.	P.P.	D.B.F.	M.M.	FIELD/LOGIC CONNECTIONS ADDED
C	11/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT F3 (P8/111) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400166_DWG

SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT F4

FIELD



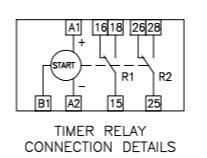
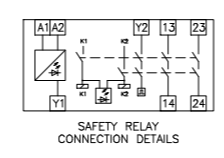
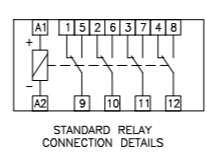
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

- RELAYS:**
- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
 - TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

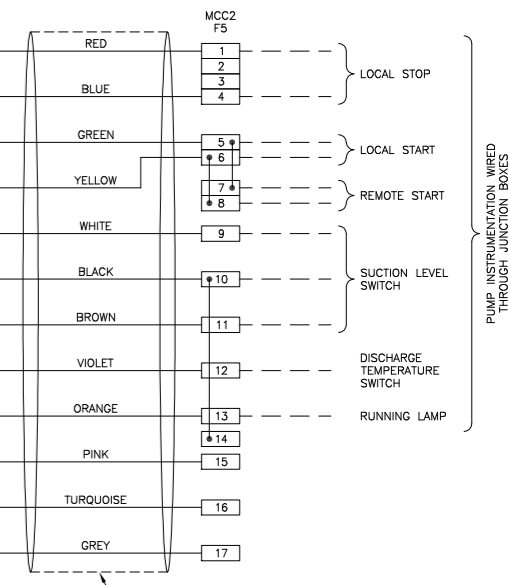
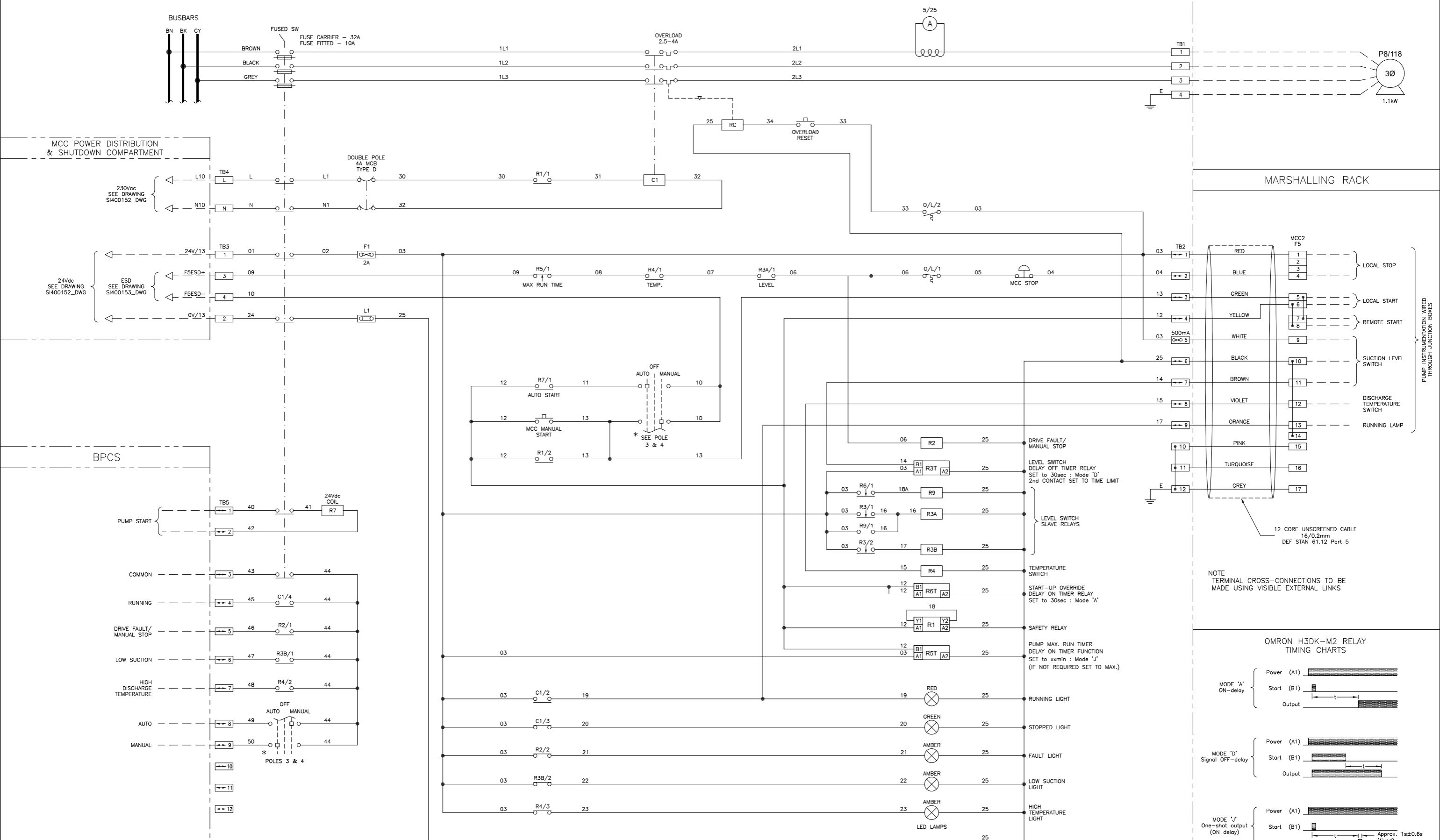
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	30/07/12	P.P.	P.P.	D.B.F.	M.M.	FIELD/LOGIC CONNECTIONS ADDED
C	11/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT F4 (P8/112) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400167_DWG

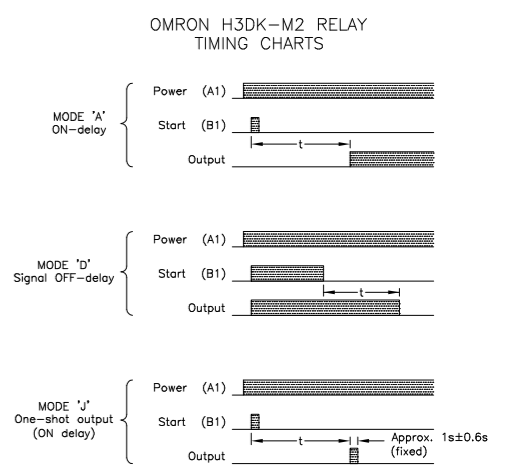
SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT F5

FIELD



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS



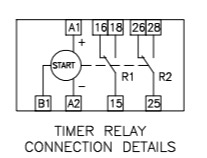
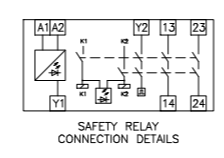
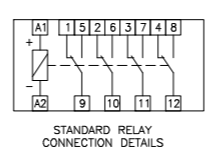
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	S14 - SI462 PROJECT
B	13/03/14	D.B.F	P.P.	D.B.F	M.M.	AS BUILT

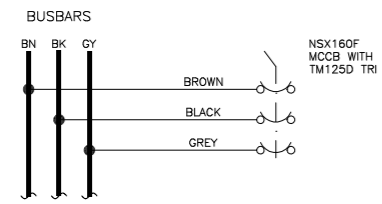
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT F5 (P8/11B) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400168_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT F6

FIELD



MARSHALLING RACK

NOTES:
1) EXTERNAL WIRING SHOWN ---

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB2 - Weidmuller WSI6, WTR2.5 & WDU2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded



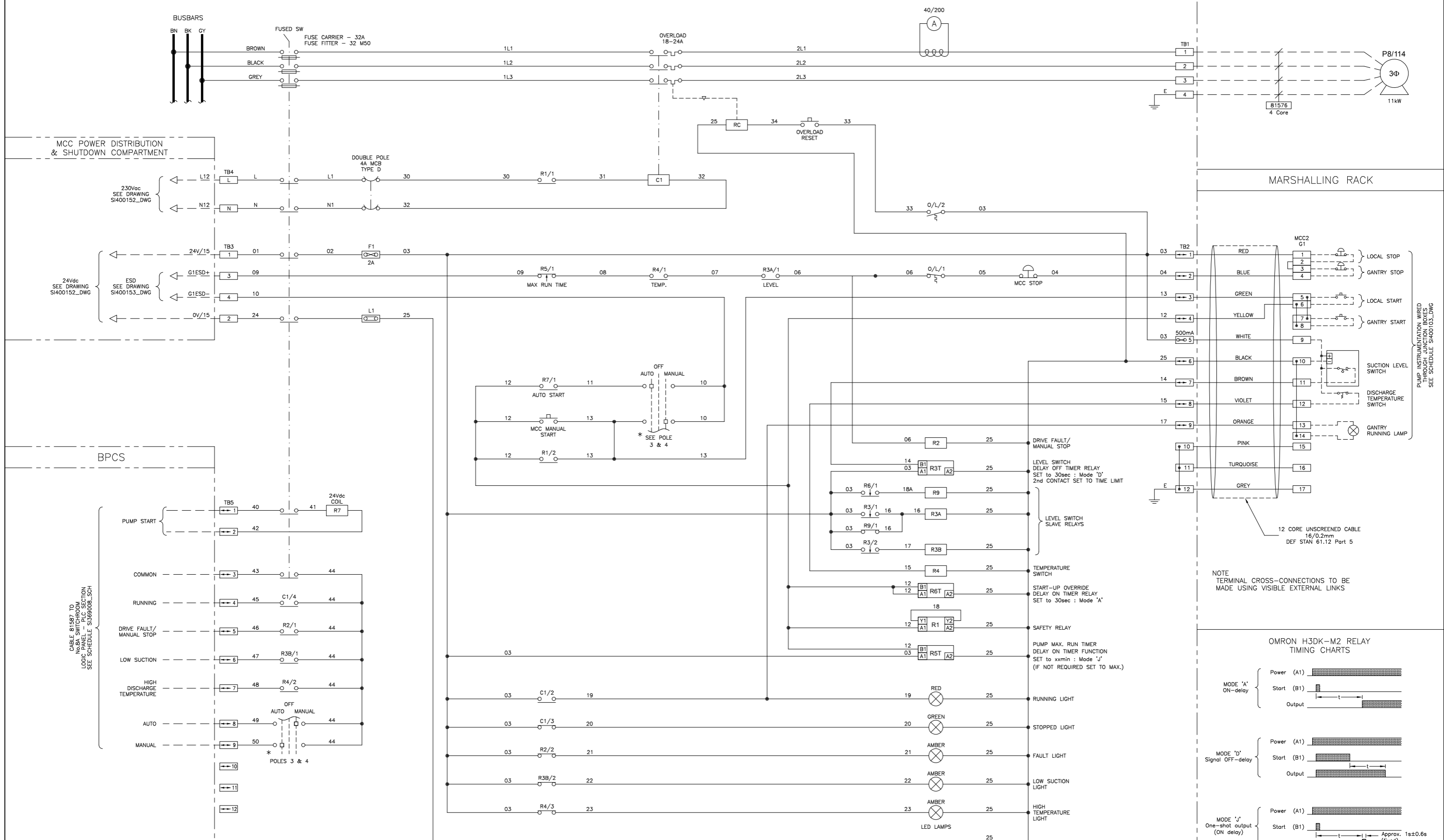
IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	14/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

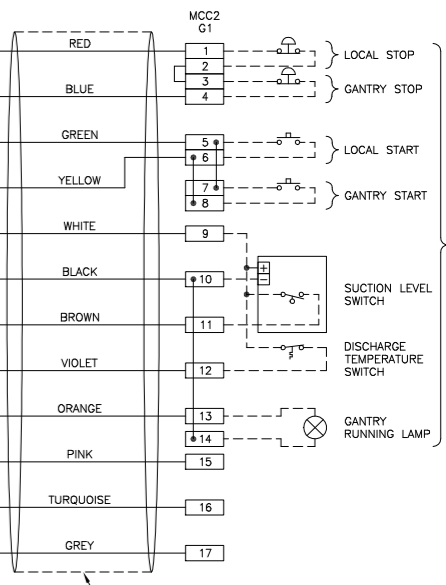
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT F6 FEED WIRING DETAILS
	IMMINGHAM STORAGE Co. Ltd. IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E. LINCOLNSHIRE, DN40 2SU
	P & I Design Ltd Tel: 01642 617444 www.pidesign.co.uk
SHEET 1 OF 1	
CLIENT DRG. No.	P&I DRG No. SI400169_DWG

No.8A SWITCHROOM
MCC2 - COMPARTMENT G1

FIELD

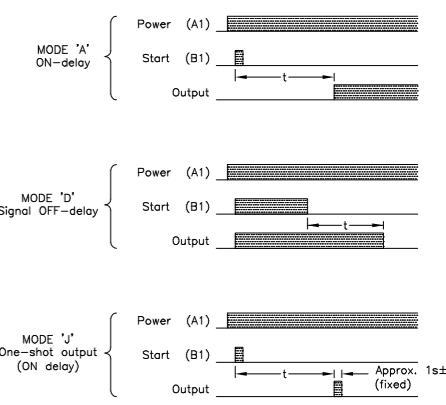


MARSHALLING RACK



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

OMRON H3DK-M2 RELAY
TIMING CHARTS



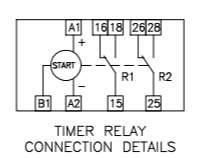
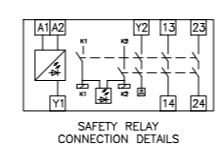
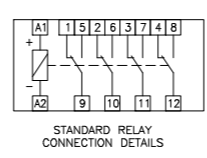
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	31/05/12	P.P.	P.P.	M.M.	M.M.	FIELD CONTROLS ADDED
C	14/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

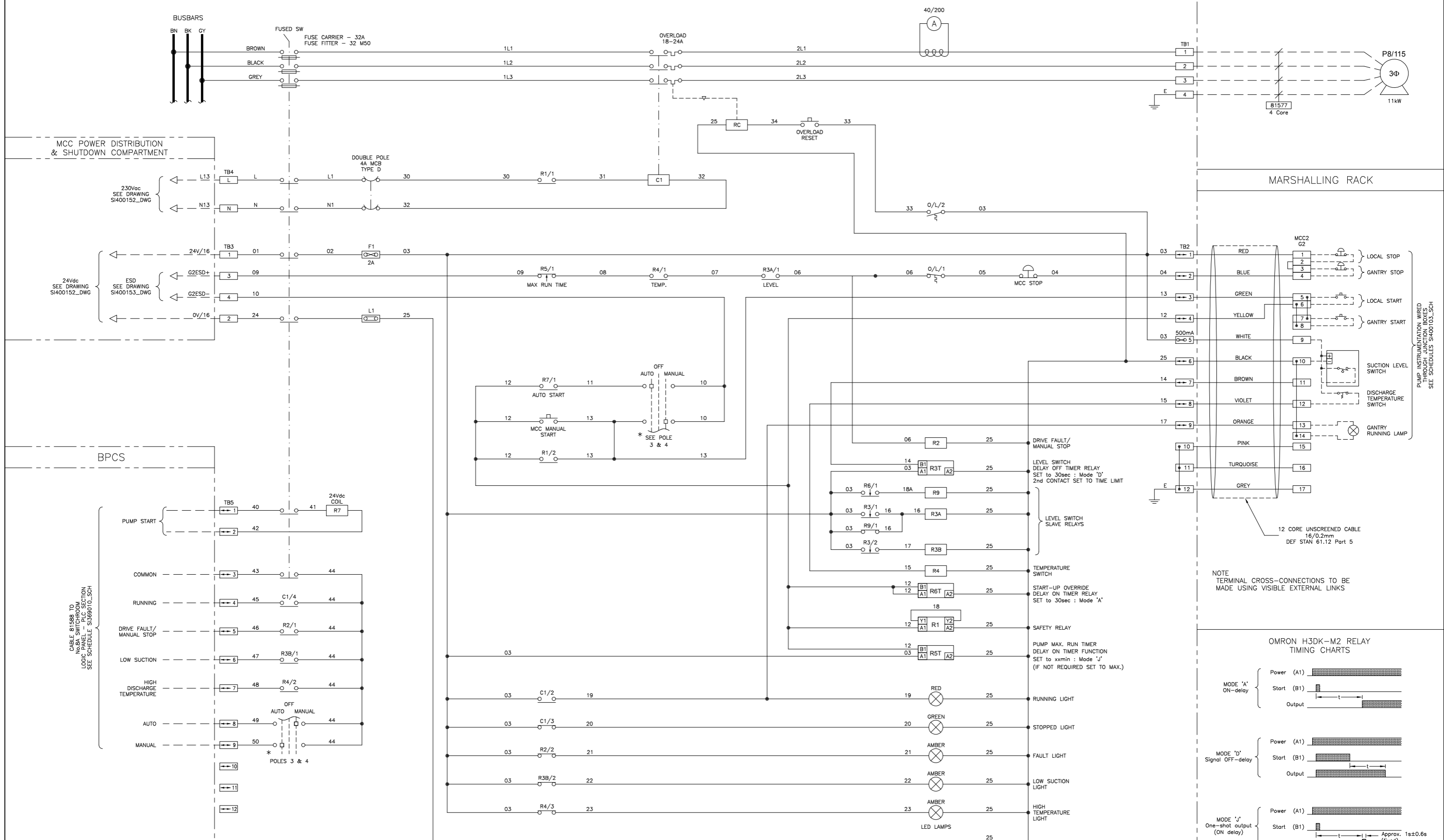
PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT G1 (P8/114) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400170_DWG



SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT G2

FIELD



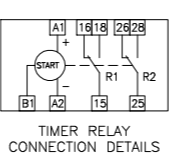
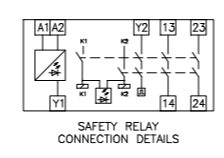
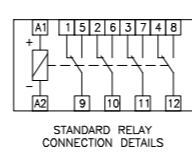
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE:
COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



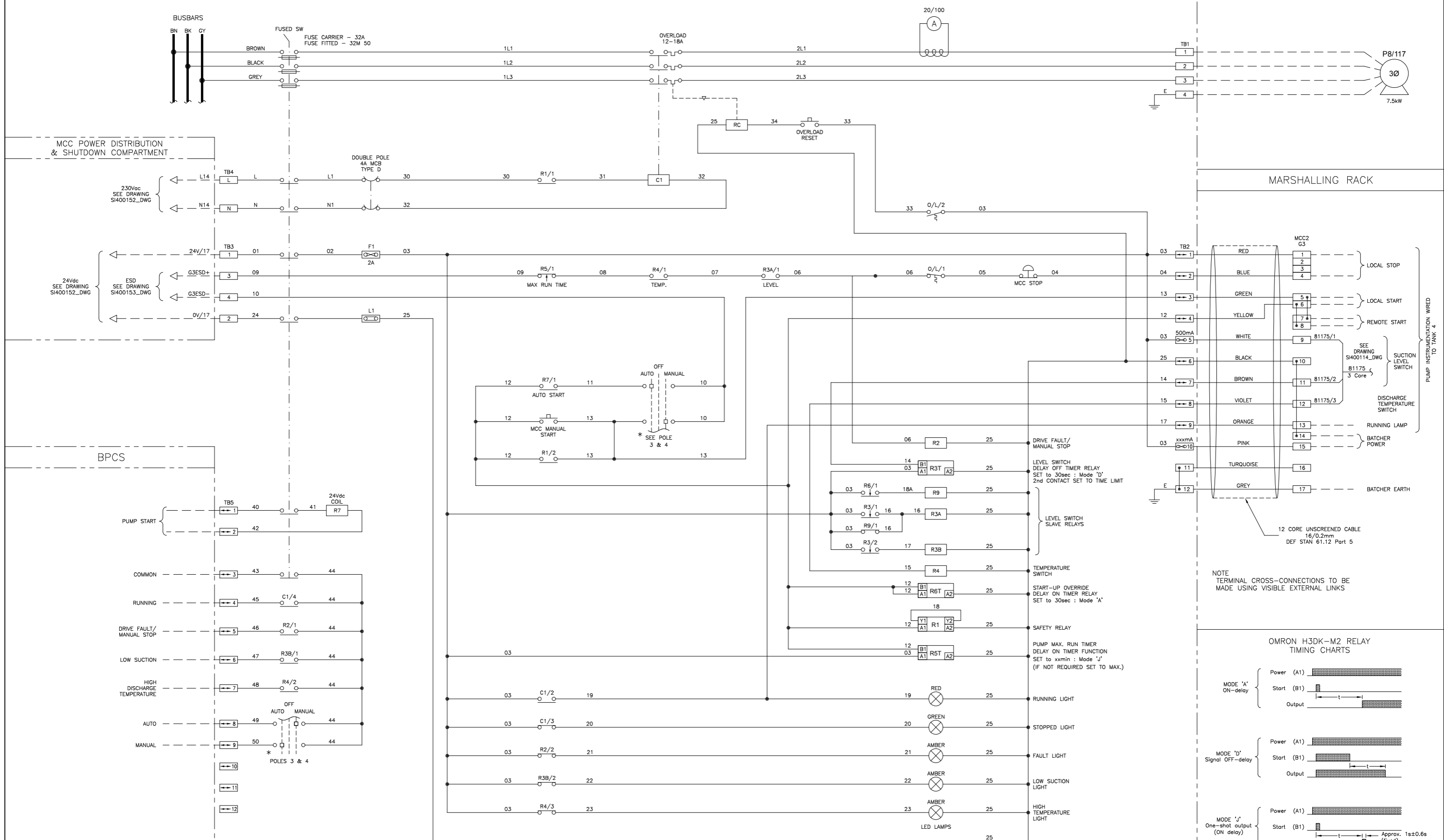
IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	31/05/12	P.P.	P.P.	M.M.	M.M.	FIELD CONTROLS ADDED
C	14/04/14	P.P.	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT G2 (P8/115) DOL WIRING DETAILS
CLIENT DRG. No.	SI400171_DWG
SHEET 1 OF 1	P&I DRG No. SI400171_DWG

No.8A SWITCHROOM
MCC2 - COMPARTMENT G3

FIELD



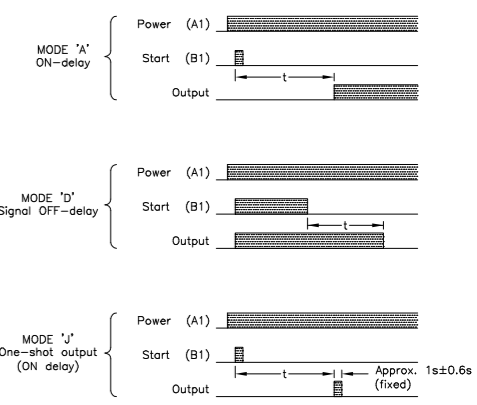
MCC POWER DISTRIBUTION & SHUTDOWN COMPARTMENT

BPCS

MARSHALLING RACK

NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

OMRON H3DK-M2 RELAY
TIMING CHARTS



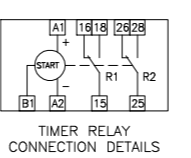
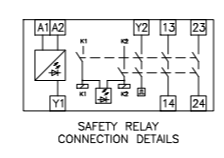
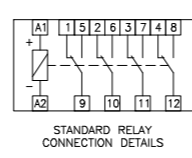
NOTES:
1) EXTERNAL WIRING SHOWN - - - - -

CABLE COLOURS:
3^Φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmüller WS16, WTR2.5 & WDU2.5
TB3 - Weidmüller WTR2.5
TB4 - Weidmüller WDU2.5 Shrouded
TB5 - Weidmüller WTR2.5

RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



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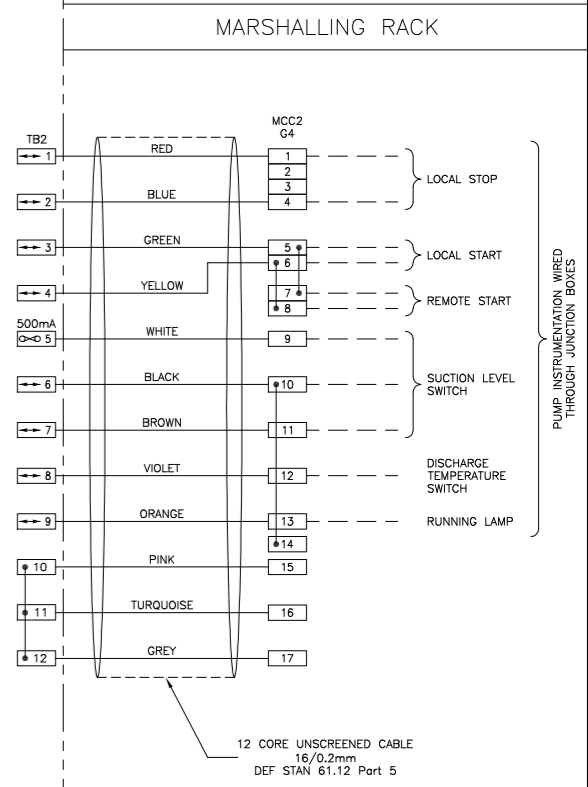
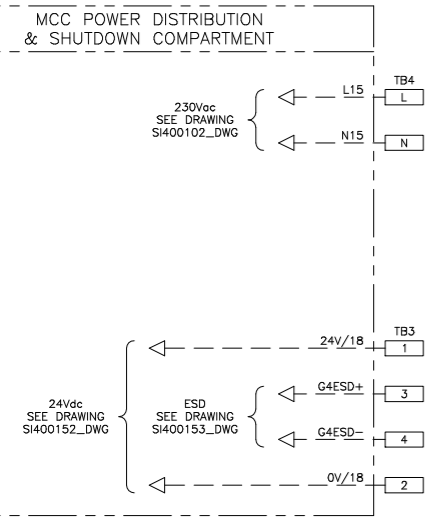
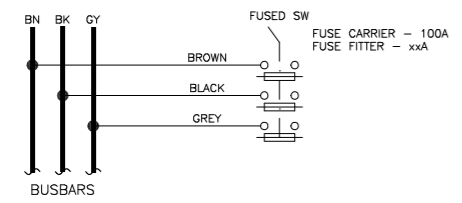
REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	01/04/13	D.B.F	P.P.	D.B.F	M.M.	G19 WATER PUMP - S462 PROJECT
B	06/09/13	D.B.F	P.P.	D.B.F	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT G3 (P8/117) DOL WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400172_DWG

SHEET 1 OF 1

No.8A SWITCHROOM
MCC2 - COMPARTMENT G4

FIELD



NOTE
TERMINAL CROSS-CONNECTIONS TO BE
MADE USING VISIBLE EXTERNAL LINKS

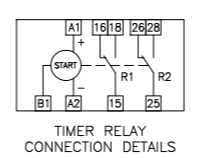
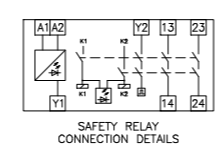
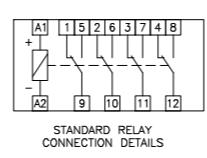
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE:
COLOURS:
3ø - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS16 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

- RELAYS:**
- STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
 - TIMER RELAY :- OMRON H3DK-M2



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REV	DATE	BY	DRN	CHK'D	APP'D	DESCRIPTION
A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	14/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT G4 (SPARE) SOFT START WIRING DETAILS
CLIENT DRG. No.	P&I DRG No. SI400173_DWG

IMMINGHAM STORAGE Co. Ltd.
IMMINGHAM WEST TERMINAL
WEST RIVERSIDE,
IMMINGHAM DOCK,
IMMINGHAM,
N.E. LINCOLNSHIRE,
DN49 2SU

P & I DESIGN
P & I Design Ltd
Tel. 01642 617444
www.pidesign.co.uk

SHEET 1 OF 1

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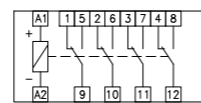
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

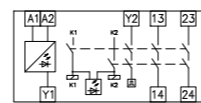
SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

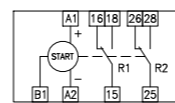
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



STANDARD RELAY CONNECTION DETAILS



SAFETY RELAY CONNECTION DETAILS



TIMER RELAY CONNECTION DETAILS



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B	14/04/14	P.P.	P.P.	D.B.F.	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT G4 SPARE COMPARTMENT
CLIENT DRG. No.	P&I DRG No. SI400174_DWG

P & I Design Ltd
 Tel: 01642 617444
 www.pidesign.co.uk

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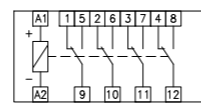
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

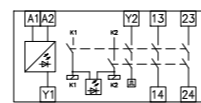
SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

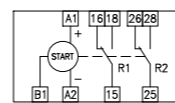
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



STANDARD RELAY CONNECTION DETAILS



SAFETY RELAY CONNECTION DETAILS



TIMER RELAY CONNECTION DETAILS



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A	07/11/11	P.P.	P.P.	M.M.	M.M.	M.M.	POST FAT ISSUE
B	14/04/14	P.P.	P.P.	D.B.F.	M.M.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT H2 SPARE COMPARTMENT
CLIENT DRG. No.	P&I DRG No. SI400175_DWG

IMMINGHAM STORAGE Co. Ltd.
 IMMINGHAM WEST TERMINAL,
 WEST RIVERSIDE,
 IMMINGHAM DOCK,
 IMMINGHAM,
 N.E. LINCOLNSHIRE,
 DN40 2SU

P & I Design Ltd
 Tel: 01642 617444
 www.pidesign.co.uk

MARSHALLING RACK

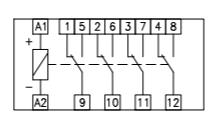
NOTES:
1) EXTERNAL WIRING SHOWN - - - -

CABLE COLOURS:
3φ - PHASE COLOURS
230Vac - BROWN
NEUTRAL - BLUE
24Vdc CONTROL - WHITE
0Vdc CONTROL - BLACK

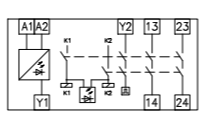
SIZE:
TO SUIT MOTOR LOAD
1.5mm²
1.5mm²
1.0mm²
1.0mm²

TERMINALS:
TB1 - TO SUIT OUTCOMING TAILS
TB2 - Weidmuller WS6 & WTR2.5
TB3 - Weidmuller WTR2.5
TB4 - Weidmuller WDU2.5 Shrouded
TB5 - Weidmuller WTR2.5
TB6 - Weidmuller WTR2.5
TB7 - Weidmuller WDU2.5

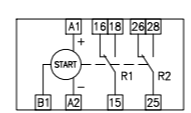
RELAYS:
1) STANDARD RELAY with TEST BUTTON, LED, DIODE & MECHANICAL INDICATOR :-
FINDER TYPE 55.34.9.024.0.0094
BASE :-
FINDER TYPE 94.04.0
2) TIMER RELAY :- OMRON H3DK-M2



STANDARD RELAY CONNECTION DETAILS



SAFETY RELAY CONNECTION DETAILS



TIMER RELAY CONNECTION DETAILS



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A	07/11/11	P.P.	P.P.	M.M.	M.M.	POST FAT ISSUE
B	14/04/14	P.P.	P.P.	D.B.F.	M.M.	AS BUILT

PLANT	IMMINGHAM STORAGE Co. - WEST TERMINAL
TITLE	No.8A SWITCHROOM - MCC2 COMPARTMENT I1 SPARE COMPARTMENT
	IMMINGHAM STORAGE Co. Ltd. IMMINGHAM WEST TERMINAL, WEST RIVERSIDE, IMMINGHAM DOCK, IMMINGHAM, N.E. LINCOLNSHIRE, DN40 2SU
	P & I Design Ltd Tel: 01642 617444 www.pidesign.co.uk
CLIENT DRG. No.	P&I DRG No. SI400176_DWG
	SHEET 1 OF 1

NOT TO BE ISSUED

