S
D
R SDFA TYPE - SDR
-
2 SDFA SWITCH UNIT VERSION - THREE PHASE SWITCH UNIT
4 RATED VOLTAGE (BIL) - 38kV (170kV/70kV)
1 RATED SHORT-CIRCUIT CURRENT - 12.5kA
8 RATED NORMAL CURRENT - 800A
-
V CURRENT & VOLTAGE SENSING - INTEGRATED CURRENT TRANSFORMER & INTEGRATED VOLTAGE SENSOR (ONE PER PHASE)
O SMART SWITCH CONFIGURATION - DESIGN 4 (STANDARD) FRAME W/ PROVISIONS FOR LINE & LOAD SIDE ARRESTERS
2 RELAY TYPE - SIEMENS 7SC80
7 ENCLOSURE TYPE - 24W X 36H X 14D - PAINTED ALUMINUM
4 CONTROL CABLE LENGTH - 40 FEET

Z ADDITIONAL OPTIONS - *SX06: SIEMENS 7SC80 - 7SC8024-3BC97-3FB1+L2T /CC; *SC02: STUD CONNECTOR, .75 STUD TO FLAT PAD, NEMA 2 HOLE

NOTES:

1) THIS ORDER WILL REQUIRE THE NON-IEEE 37.60 3 PHASE RATING LABEL.
2) WIRE FERRULES REQUIRED ON ALL WIRE CONNECTIONS.

QUICK REFERENCE GUIDE: N/A
INSTRUCTION MANUAL: E50001-F710-A249-V3-4A00

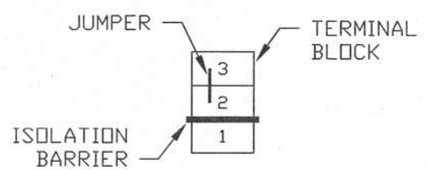
LEGEND

	BP1-2	BACKPANEL GROUND POINT
	BTY1	BATTERY
	BTY2	BATTERY
	BTY3	BATTERY
	BTY4	BATTERY
☒	CB1	120VAC CONTROL DISCONNECT
☒	CB2	HEATERS DISCONNECT
☒	CB3	48VDC BATTERY BACKUP DISCONNECT
	CC-1	CONTROL CONNECTOR - 14 PIN
	CV-1	VOLTAGE CONNECTOR - 9 PIN (INTERNAL SENSORS)
	DB9	DB9 CONNECTOR (USED ON PS1)
	GTB	GROUNDING TERMINAL BLOCK
☒	HMI	DISPLAY FOR 7SC80
	PCB2	SWITCH UNIT DRIVER PCB
	PCB3	CAPACITOR PCB
	PS1	POWER SUPPLY
☒	RCPT	GFCI RECEPTACLE
	RHP1-8	RIGHT HAND SIDE PANEL GROUND POINTS
	R1	BATTERY TEST LOAD RESISTOR
	R2	TEMPERATURE SENSOR
	R3	HEATER
	S3	THERMOSTAT
	X1	TERMINAL BLOCK
	X2	TERMINAL BLOCK
	X3	TERMINAL BLOCK
	X4	TERMINAL BLOCK
	X5	TERMINAL BLOCK
	ZD1	ZENER DIODE - SHUTDOWN
☒	7SC80	AUTOMATION CONTROLLER

SCHEMATIC DRAWING NOTES

1. ALL EQUIPMENT SHOWN WITH RECLOSER SWITCH OPEN AND ALL CIRCUITS DE-ENERGIZED.
2. ☒ = DEVICE LOCATED ON SWINGING PANEL

WIRING DIAGRAM NOTES



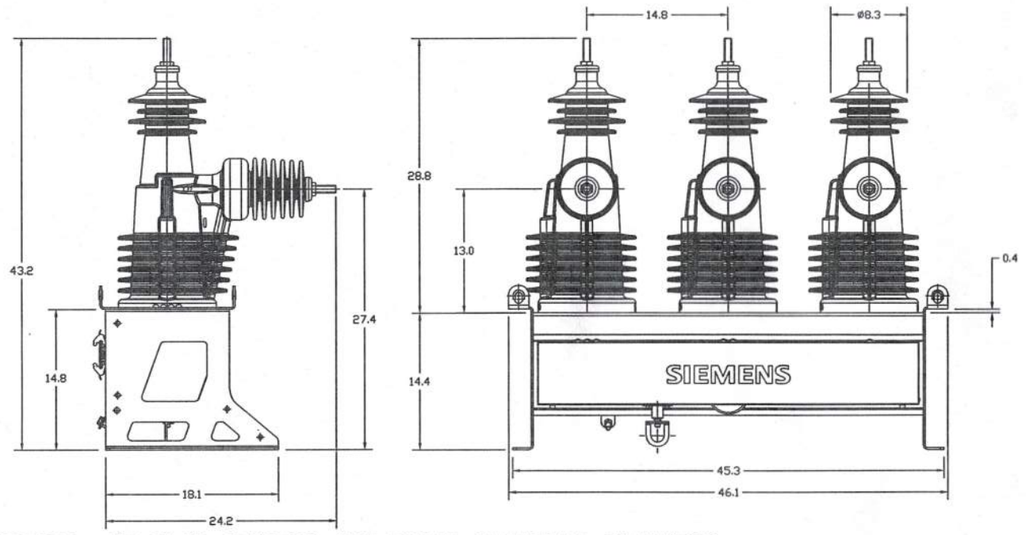
0B	0A	SIEMENS SALES ORDER: 30169652 LINE ITEM: 101	PRELIMINARY: APPROVAL: X CERTIFIED:	PRODUCT TYPE SDR	SIEMENS Siemens Industry Inc. Raleigh, NC
02/02/2016	10/21/2015	CUSTOMER: MIDCOAST REGIONAL REDEV AUTH CUSTOMER PROJECT: RECLOSER UPGRADE GROUP: SDFA - 38kV THREE PHASE CUSTOMER ORDER: 1009		SCALE NTS DRAWN: MFK APPRV: TH	DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION UNIT GENERAL INFORMATION & NOTES
MFK	MFK			DOCUMENT NUMBER: 30169652-SDR-GI01	◯

ORDER BILL OF MATERIAL

QTY.	ITEM NO.	DESCRIPTION	DEVICE NAME	MFGR	CATALOG NUMBER	SIEMENS PART NUMBER
1	1	RECLOSER, 38kV, 12.5kA, 800A W/VS	SW	SIEMENS	3AD3523-3BY50-0YY2	43-250-203-214

ACCESSORIES

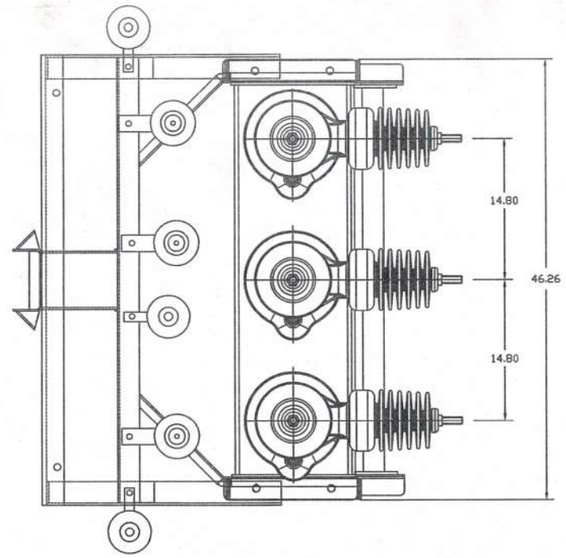
QTY.	ITEM NO.	DESCRIPTION	DEVICE NAME	MFGR	CATALOG NUMBER	SIEMENS PART NUMBER
1	101	SWITCH MOUNTING BRACKET		SIEMENS	18842081803	18-842-081-803
1	102	SURGE ARRESTER BRACKET BOM		SIEMENS	18671296702	18-671-296-702
1	103	SURGE ARRESTER & CVT BRACKET BOM		SIEMENS	18671296708	18-671-296-708
1	104	CONTROL CABLE ASSEMBLY - 40FT	CC-1	HARTING		43-250-203-286
1	105	VOLTAGE SENSOR CABLE ASSEMBLY - 40FT	CV-1	HARTING		77-909-100-504
6	106	STUD CONNECTOR, .75 STUD TO 2 HOLE FLAT PAD		HJ ENTERPRISES	BHDSF10-055TP	77-909-000-241
2	107	LEVELING FOOT BRACKET		SIEMENS	18671296108	18-671-296-108
2	108	LEVELING FOOT		SIEMENS	18671296109	18-671-296-109
1	109	SHIPPING PALLET			79909000270	79-909-000-270
1	110	BOX FOR SHIPPING PALLET			79909000293	79-909-000-293
6	111	3EK7 SURGE ARRESTER		SIEMENS	77966000343	77-966-000-343
1	112	SMVI VOLTAGE SENSOR, 38kV LL		LINDSEY	77909000508, RECLOSER #2 ONLY	77-909-000-508
1	113	SMVI VOLTAGE SENSOR CABLE, 40 FT		LINDSEY	43250203192, RECLOSER #2 ONLY	43-250-203-192

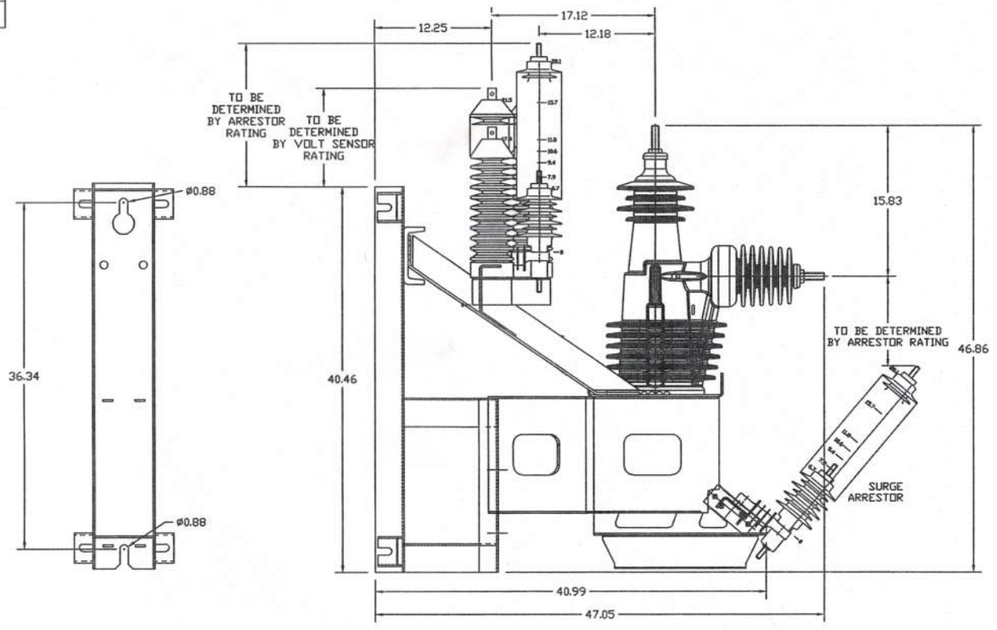


NOTE:

SURGE ARRESTORS, VOLTAGE SENSORS AND THEIR MOUNTING BRACKETS ARE OPTIONAL EQUIPMENT AND NOT INCLUDED ON THIS ORDER UNLESS SHOWN IN THE BILL OF MATERIAL.

SWITCH UNIT WEIGHT: 353 LBS
POLE FRAME WEIGHT: 170 LBS
TOTAL WEIGHT: 523 LBS





0B	02/02/2016	MFK	ADDED VOLTAGE SENSOR & CABLE, UPDATED MTG BKT	0A	10/21/2015	MFK	

SIEMENS SALES ORDER: 30169652
LINE ITEM: 101

PRELIMINARY:
APPROVAL: X
CERTIFIED:

PRODUCT TYPE: SDR

SIEMENS
Siemens Industry Inc.
Raleigh, NC

CUSTOMER: MIDCOAST REGIONAL REDEV AUTH
CUSTOMER PROJECT: RECLOSER UPGRADE
GROUP: SDFA - 38kV THREE PHASE
CUSTOMER ORDER: 1009

SCALE: NTS
DRAWN: MFK
APPRV: TH

DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION UNIT ACCESSORY BILL OF MATERIAL & SWITCH MOUNTING

DOCUMENT NUMBER: 30169652-SDR-EB01

CONTROL CABINET BILL OF MATERIAL

QTY.	ITEM NO.	DESCRIPTION	DEVICE NAME	MFGR	CATALOG NUMBER	SIEMENS PART NUMBER
1	1	CABINET 24 X 36 X 14 - PAINTED ALUMINUM	CC	SIEMENS		43-250-203-249
1	2	CABINET BACK PLATE	CC	SIEMENS		43-250-203-262
1	3	AUTOMATION CONTROLLER W/HMI	7SC80	SIEMENS	7SC8024-3BC97-3FB1 +L2T	43-250-203-265
1	4	SWINGING PANEL	SP	SIEMENS	43250203275	43-250-203-275
1	5	PUSHBUTTON, GREEN, 1 NO CONTACT	PB1	SIEMENS	78200000814	78-200-000-814
1	6	PUSHBUTTON, RED, 1 NO CONTACT	PB2	SIEMENS	78200000819	78-200-000-819
1	7	CONTROL CONNECTOR, 14 PIN, MALE W/LEADS	CC-1	AMPHENOL	97-3102A-22-19P	43-250-203-237
1	8	TEMPERATURE SENSOR ASSEMBLY	R2	SIEMENS	18671296801	18-671-296-801
7	9	TERMINAL BLOCK	X1,X4	PHOENIX	3004524	77-909-000-279
2	10	TERMINAL BLOCK END BARRIER	X1,X4	PHOENIX	3003020	77-909-000-280
3	11	TERMINAL BLOCK ISOLATION BARRIER	X1,X4	PHOENIX	3003224	77-909-000-364
17	12	TERMINAL BLOCK	X2,X3,GTB	PHOENIX	3003347	77-910-000-269
3	13	TERMINAL BLOCK END BARRIER	X2,X3,GTB	PHOENIX	3001022	77-910-000-510
2	14	TERMINAL BLOCK ISOLATION BARRIER	X2	PHOENIX	2770215	77-910-000-271
1	15	CROSS CONNECTOR/JUMPER, 10 POSITION	X2,GTB	PHOENIX	2770642	77-910-000-512
7	16	TERMINAL BLOCK END CLAMP		PHOENIX	1201442	77-910-000-270
2	17	CORDGRIP, .25 TO .485 DIA CABLE		HEYCO	M3454	77-910-000-519
1	18	ZENER DIODE, 27V, 1W	ZD1		1N4750A	77-909-000-458
4	19	BATTERY, 12V	BTY	POWER SONIC	PS-12120 F2	77-910-000-273
1	20	POWER SUPPLY, 120VAC TO 48VDC, 125 WATT	PS1	POWER-ONE	LWR1740-6EM1	77-909-000-238
1	21	CONN, DB9, FEMALE, SCREW TERM	DB9	PHOENIX	276 1509	77-904-000-147
1	22	SWITCH UNIT DRIVER PCB	PCB2	SIEMENS	SUD_V2	77-910-000-283
2	23	CAPACITOR PCB	PCB3	SIEMENS	3AX1300-4C	77-910-000-276
2	24	CIRCUIT BREAKER, AC, 1P, 10A	CB1,CB2	SIEMENS	5SY4110-6	77-910-000-277
1	25	CIRCUIT BREAKER, AC/DC, 1P, 16A	CB3	SIEMENS	5SY5116-6	77-910-000-278
1	26	DUPLEX RECEPTACLE, GFI, 20A, 120VAC	RCPT	HUBBELL	2095I	77-602-000-215
1	27	RESISTOR, 75 WATT, 25 OHMS, ADJ.	R1	OHMITE	D75K25RE	77-910-000-282
2	28	RESISTOR MOUNTING BRACKET, PUSH-IN TYPE	R1	OHMITE	9S	77-701-000-026
1	29	THERMOSTAT	S3	THERMODISC	60T21 X-65265	15-171-969-001
1	30	HEATER, 240V, 150W (37.5W @ 120V)	R3	VULCAN	E-TUB-150B	77-909-000-547
2	31	CORDGRIP, .25 TO .485 DIA CABLE		HEYCO	M3454	77-910-000-519
1	32	VOLTAGE CABLE ASSEMBLY	CV-1			43-250-203-236
1	33	HOLE PLUG, 1.0"		HEYCO	3832	77-910-000-514
1	34	P-CLIP, STAINLESS STEEL		SOURCE CABLE ACCESSORIES	SSP12	77-910-000-518
1	35	DEVICE MOUNTING PLATE		SIEMENS		
2	36	SPONGE RUBBER STRIP, 0.125 X 0.5		AMERICAN NATIONAL RUBBER CO.	00437051043	00-437-051-043
1	37	NAMEPLATE		SIEMENS	18671296701	18-671-296-701
2	38	DANGER LABEL (FRONT DOOR & SWINGING PANEL)			18658137071	18-658-137-071
1	39	WARNING LABEL (BACK PANEL)			18762111013	18-762-111-013
1	40	RATING LABEL		SIEMENS	18762111090	18-762-111-090
1	41	SIEMENS LOGO			25157003004	25-157-003-004
1	42	STROBE LIGHT, OUTDOOR, RED		EDWARDS SIGNALING	125STRNR120A	43-250-203-267
1	43	RADIO SHELF		SIEMENS	18671296024	18-671-296-024
1	44	RADIO SHELF SUPPORT		SIEMENS	18671296103	18-671-296-103
1	45	EMC FILTER	EMC	EPCOS	B84111F0000B030	77-909-000-236
2	46	SURGE ARRESTOR	SA1,SA2	EPCOS	B72220S0301K101	77-909-000-237
1	47	48VDC-24VDC CONVERTER, 100W	CONV1	MEANWELL	SD-100C-24	43-250-203-355

RATING LABEL 18762111090

SIEMENS

CONTROL CABINET tested with SWITCH UNIT

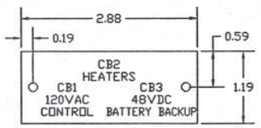
Product Type/Style	SDR/THREE PHASE	Switch Manufacturer	SIEMENS
Sales Order No.	30169652	Switch Type	3AD
Sales Item No.	100	Serial No.	
Serial No.		Production Date	
Production Date		U_r	38kV
Weight	353 lbs	U_p	170kV
		U_d	70kV
		I_r	800A
		I_{sc}	12.5kA
MADE IN USA		Must be used as distribution equipment only	
Order Code	SDR-2418-VO274		
Instruction Manual No.	E50001-F710-A249-V3-4A00		

Siemens Industry, Inc.
7000 Siemens Road, Wendell, North Carolina 27591 18-762-111-090

30169652-101-x
EXAMPLE - 06/2015

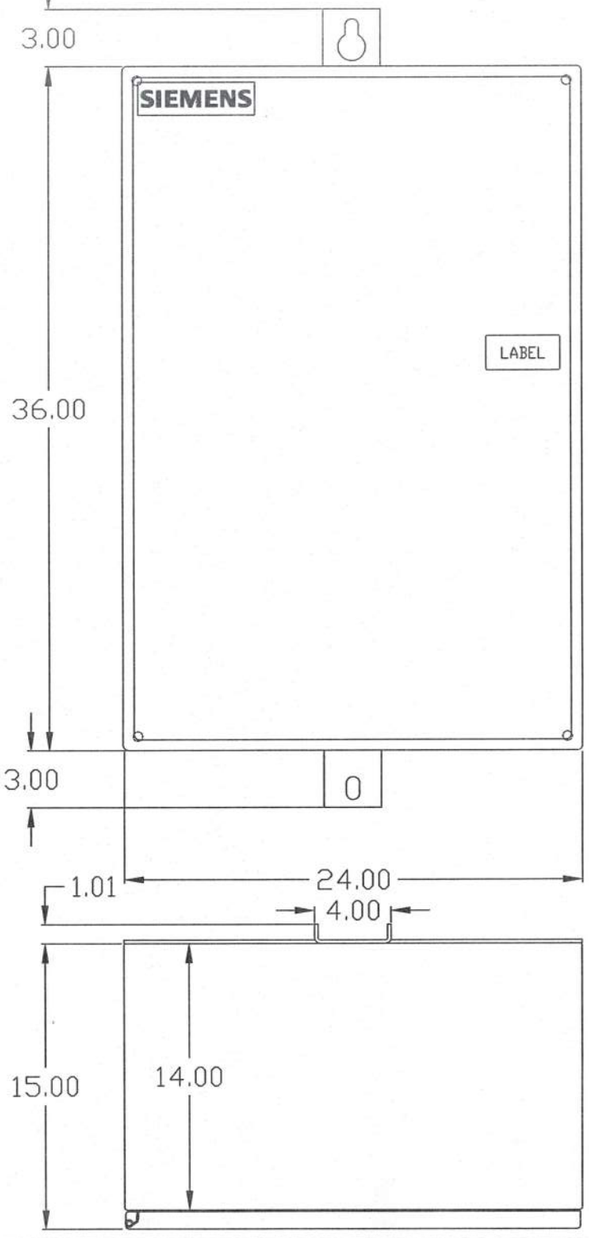
INFORMATION FROM SWITCH UNIT THIS UNIT WAS TESTED WITH

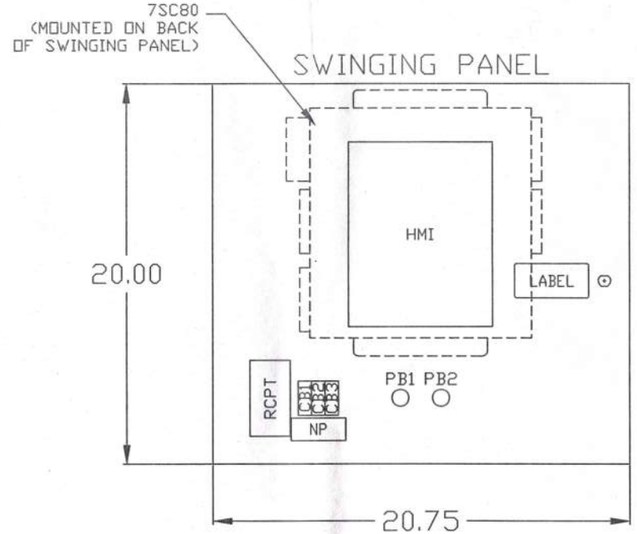
NAMEPLATE 18671296701

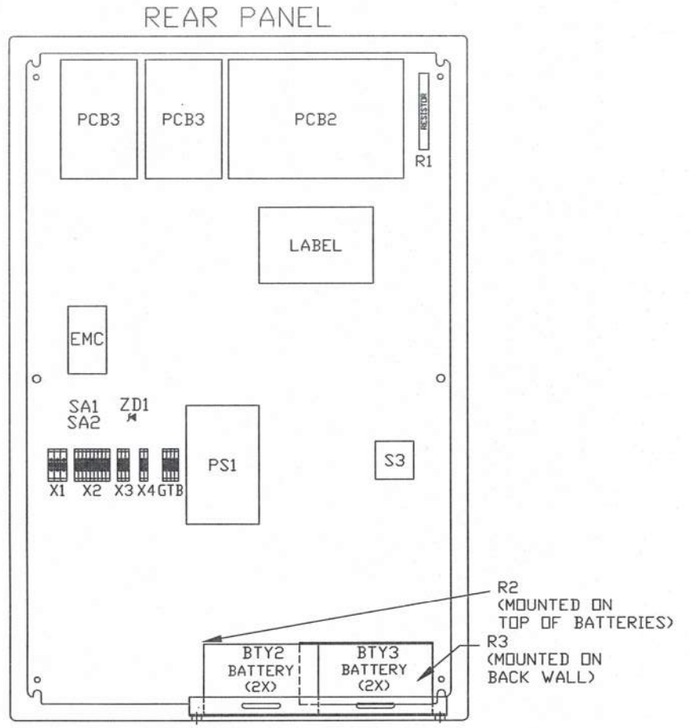


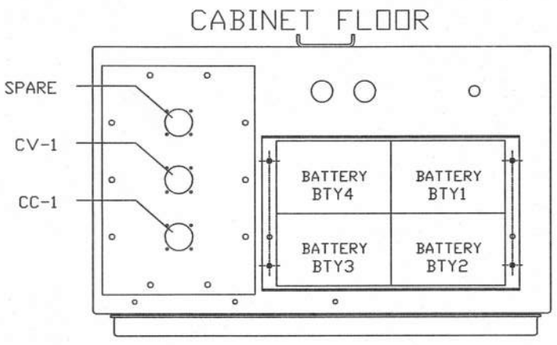
WHITE W/ BLACK CORE
.125 HIGH CHARACTERS

0B	0A	SIEMENS SALES ORDER: 30169652 LINE ITEM: 101	PRELIMINARY: APPROVAL: X CERTIFIED:	PRODUCT TYPE SDR	SIEMENS Siemens Industry Inc. Raleigh, NC
02/02/2016	10/21/2015	CUSTOMER: MIDCOAST REGIONAL REDEV AUTH CUSTOMER PROJECT: RECLOSER UPGRADE GROUP: SDFA - 38kV THREE PHASE CUSTOMER ORDER: 1009		SCALE NTS DRAWN: MFK APPRV: TH	DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION UNIT CONTROL CABINET BILL OF MATERIAL
MFK	MFK			DOCUMENT NUMBER: 30167051-SDR-EB02	

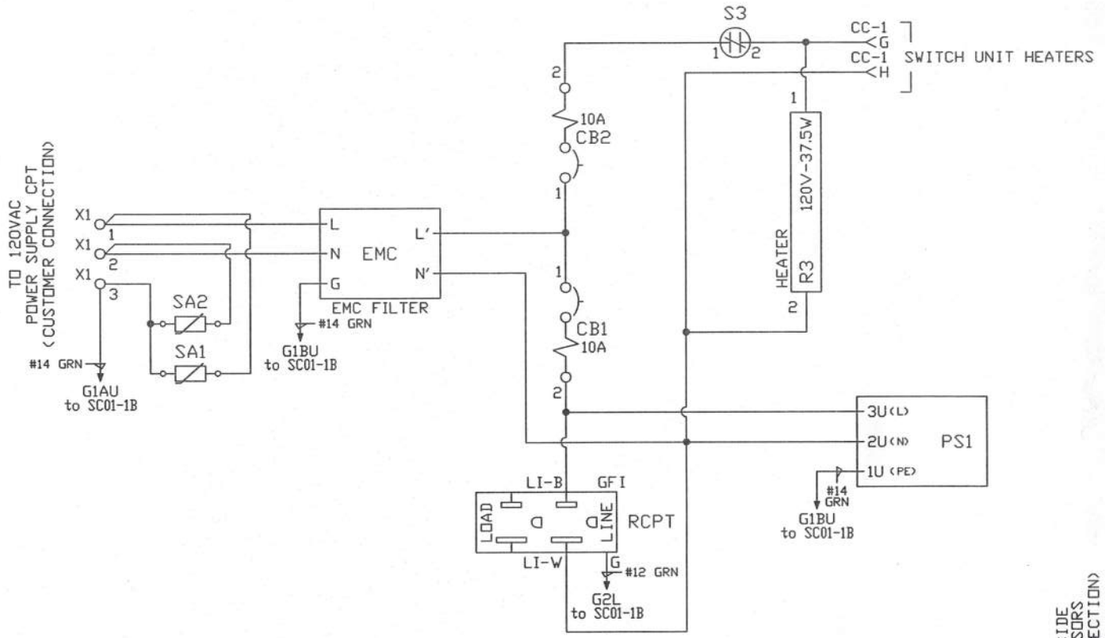


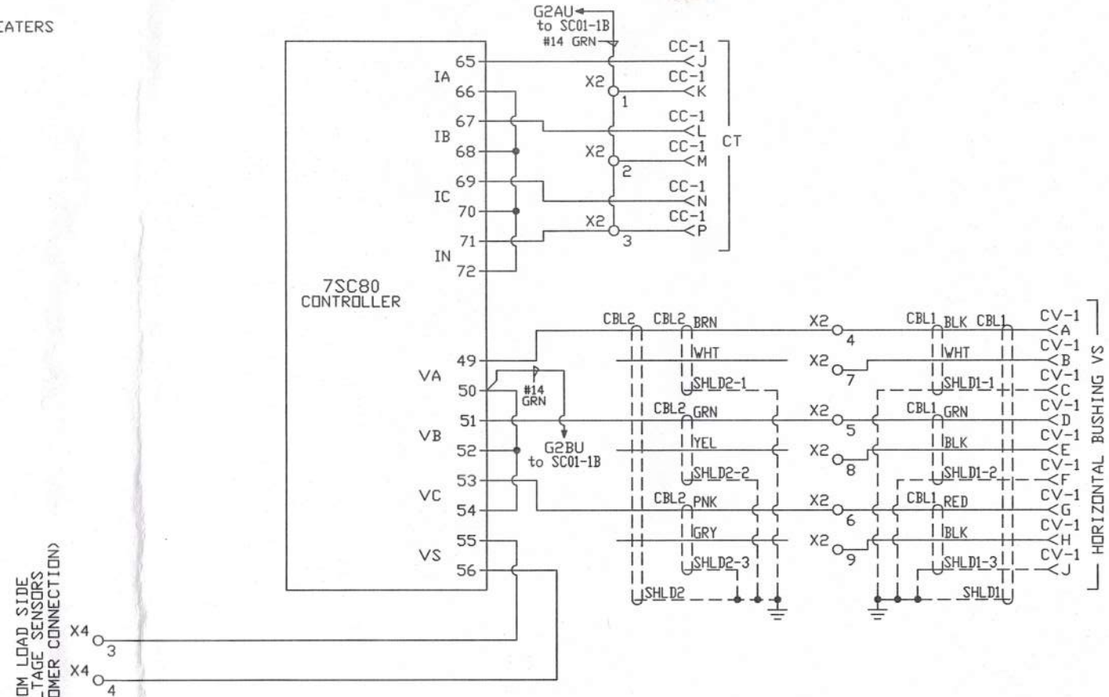


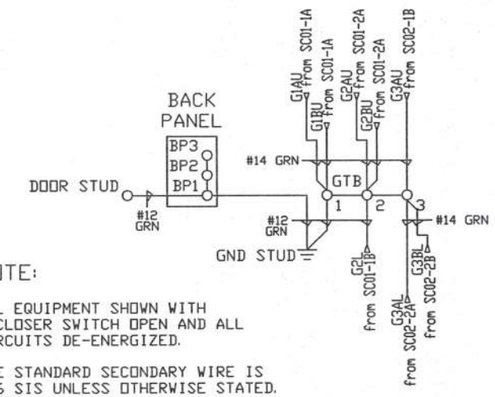




0B 02/02/2016 MFK 0A 10/21/2015 MFK	SIEMENS SALES ORDER: 30169652 LINE ITEM: 101	PRELIMINARY: APPROVAL: X CERTIFIED:	PRODUCT TYPE SDR	**SIEMENS** Siemens Industry Inc. Raleigh, NC	
	CUSTOMER: MIDCOAST REGIONAL REDEV AUTH CUSTOMER PROJECT: RECLOSER UPGRADE GROUP: SDFA - 38kV THREE PHASE CUSTOMER ORDER: 1009		SCALE NTS DRAWN: MFK APPRV: TH	DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION UNIT CONTROL CABINET OUTLINE & DEVICE ARRANGEMENT SWITCH MOUNTING	
			DOCUMENT NUMBER: 30169652-SDR-PA01		○







NOTE:

ALL EQUIPMENT SHOWN WITH RECLOSER SWITCH OPEN AND ALL CIRCUITS DE-ENERGIZED.

THE STANDARD SECONDARY WIRE IS #16 SIS UNLESS OTHERWISE STATED.

0B	02/02/2016	MFK
0A	10/21/2015	MFK

ADDED INPUT FOR VOLTAGE SENSOR TO 7SC80 VS

SIEMENS SALES ORDER: 30169652
LINE ITEM: 101

PRELIMINARY:
APPROVAL: X
CERTIFIED:

CUSTOMER: MIDCOAST REGIONAL REDEV AUTH
CUSTOMER PROJECT: RECLOSER UPGRADE
GROUP: SDFA - 38kV THREE PHASE
CUSTOMER ORDER: 1009

PRODUCT TYPE: SDR

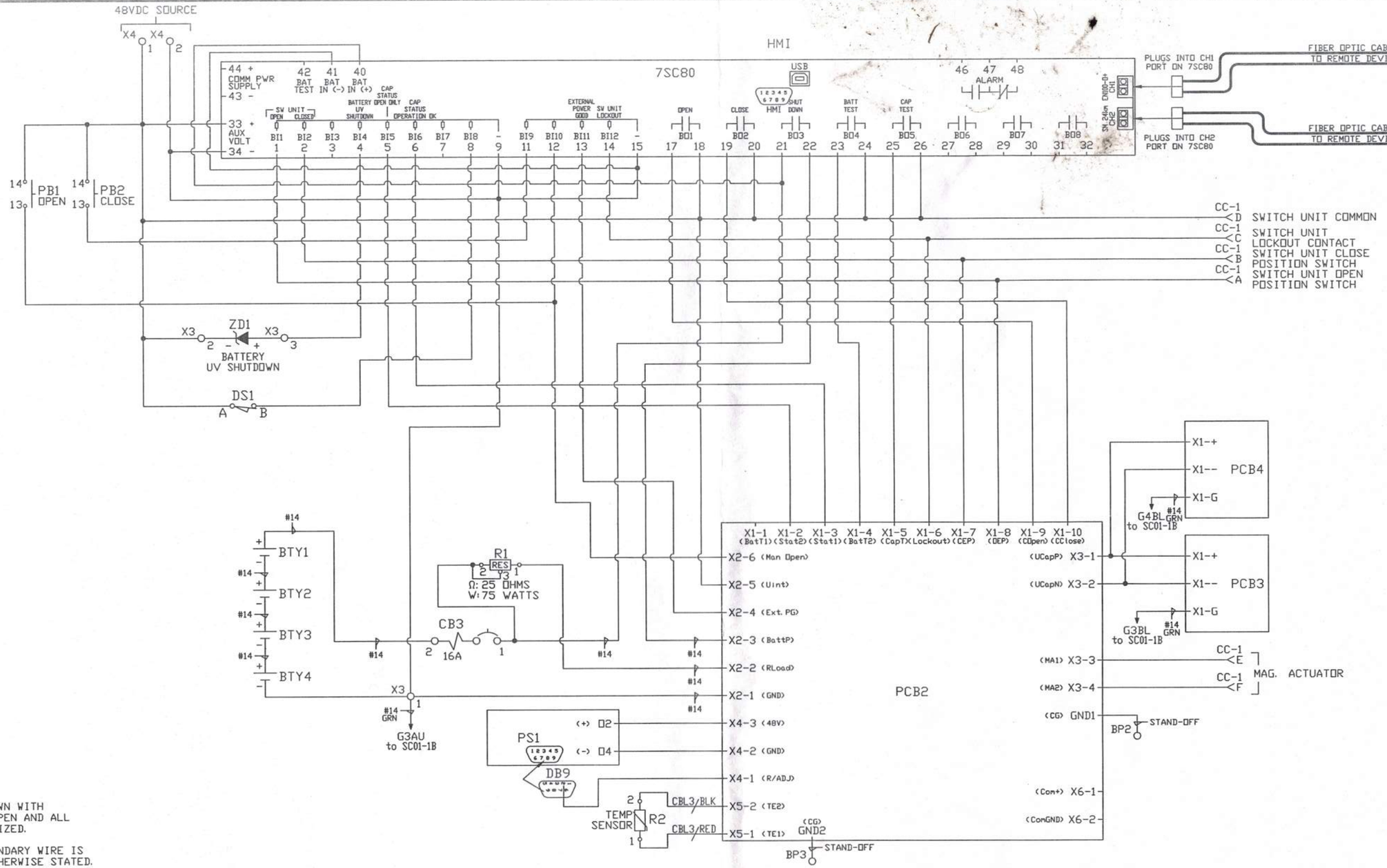
SCALE: NTS

DRAWN: MFK
APPRV: TH

SIEMENS
Siemens Industry Inc.
Raleigh, NC

DOCUMENT NAME:
DISTRIBUTION FEEDER AUTOMATION UNIT
CONTROL CABINET
SCHEMATIC DRAWING

DOCUMENT NUMBER: 30169652-SDR-SC01



NOTE:

ALL EQUIPMENT SHOWN WITH RECLOSER SWITCH OPEN AND ALL CIRCUITS DE-ENERGIZED.

THE STANDARD SECONDARY WIRE IS #16 SIS UNLESS OTHERWISE STATED.

00	10/21/2016	MFK	ADDED DOOR SWITCH		
0B	02/02/2016	MFK			

SIEMENS SALES ORDER: 30169652
LINE ITEM: 101

PRELIMINARY:
APPROVAL: X
CERTIFIED:

PRODUCT TYPE: SDR

SIEMENS
Siemens Industry Inc.
Raleigh, NC

CUSTOMER: MIDCOAST REGIONAL REDEV AUTH
CUSTOMER PROJECT: RECLOSER UPGRADE
GROUP: SDFA - 38kV THREE PHASE
CUSTOMER ORDER: 1009

SCALE: NTS
DRAWN: MFK
APPRV: TH

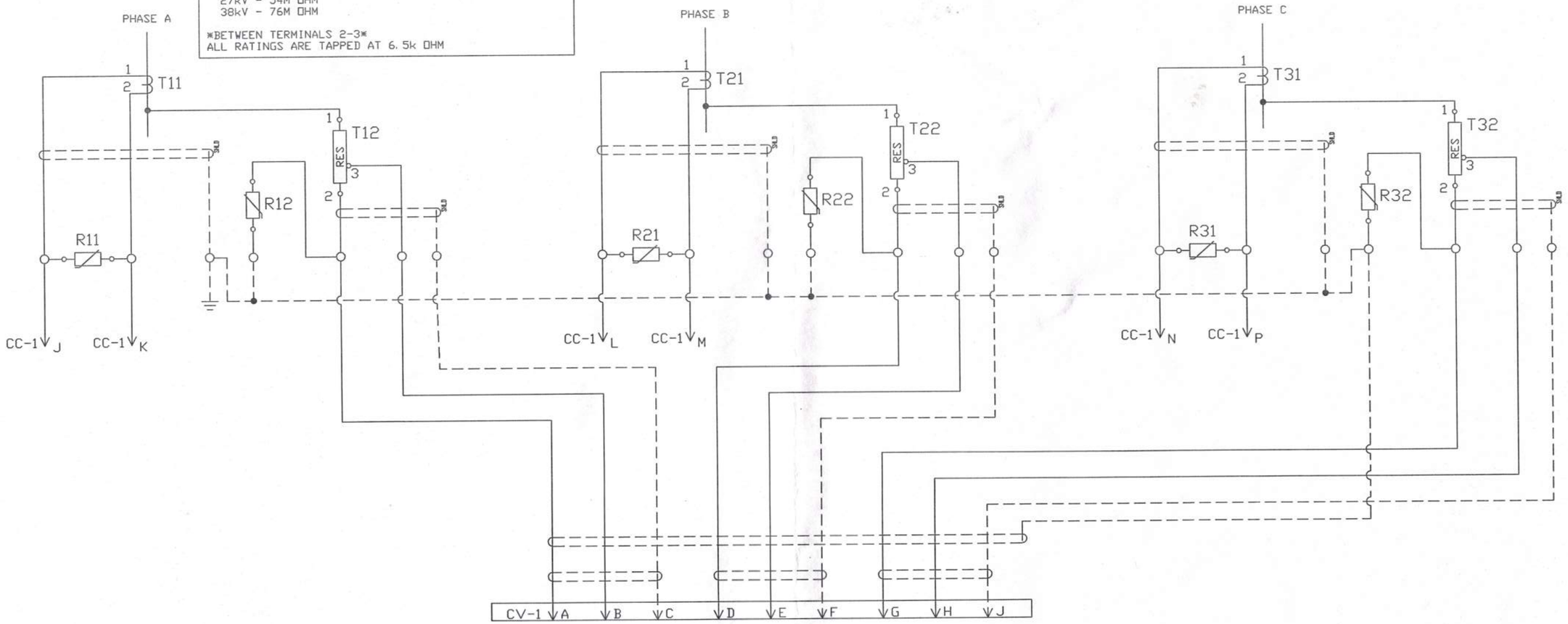
DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION UNIT CONTROL CABINET SCHEMATIC DRAWING

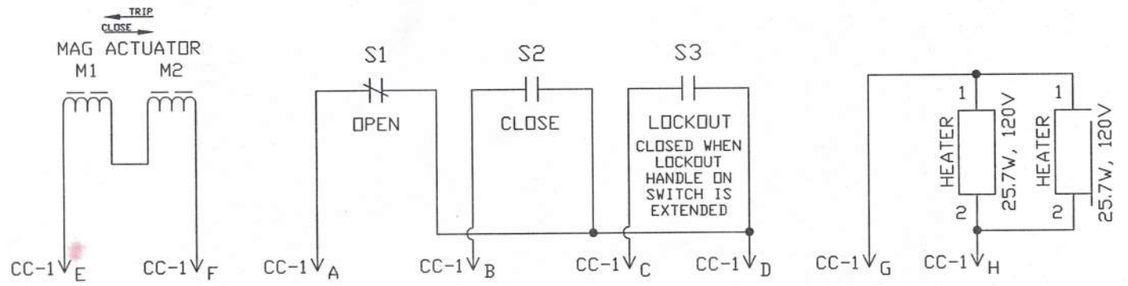
DOCUMENT NUMBER: 30169652-SDR-SC02

RESISTANCE VALUES FOR T12, T22 & T32 ARE AS FOLLOWS:
BETWEEN TERMINALS 1-2
15.5kV - 54M OHM
27kV - 54M OHM
38kV - 76M OHM

BETWEEN TERMINALS 2-3
ALL RATINGS ARE TAPPED AT 6.5k OHM

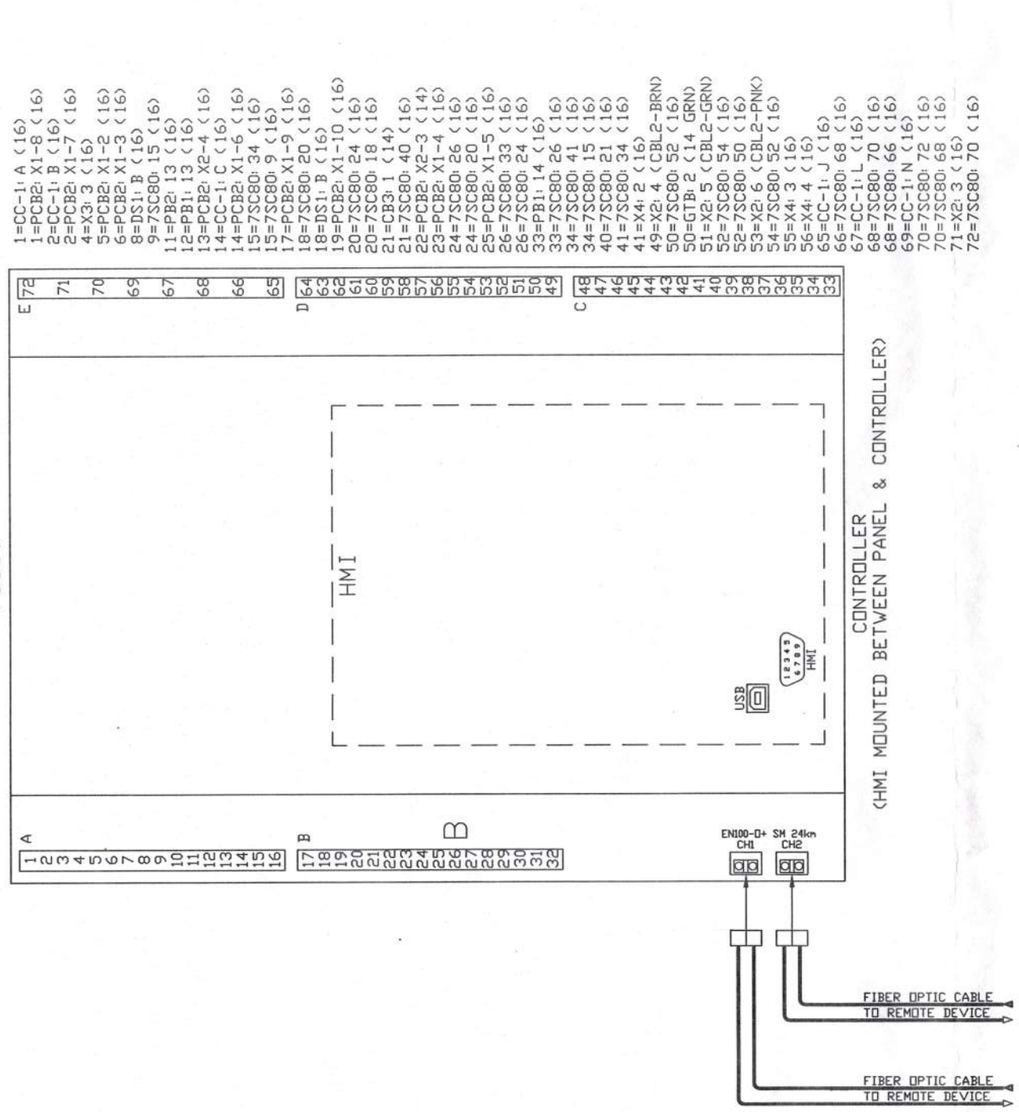
SOURCE SIDE
(HORIZONTAL BUSHINGS)





0B	0A	SIEMENS SALES ORDER: 30169652 LINE ITEM: 101	PRELIMINARY: APPROVAL: CERTIFIED: X	PRODUCT TYPE SDFA	**SIEMENS** Siemens Industry Inc. Raleigh, NC
02/02/2016	10/21/2016	CUSTOMER: MIDCOAST REGIONAL REDEV AUTH CUSTOMER PROJECT: RECLOSER UPGRADE GROUP: SDFA - 38kV THREE PHASE		SCALE NTS DRAWN: MFK APPRV: TH	DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION SWITCH UNIT SCHEMATIC DRAWING
MFK	MFK	CUSTOMER ORDER: 1009		DOCUMENT NUMBER: 30169652-SDR-SC03	

NOTE:
USE FERRULES ON ALL WIRE CONNECTIONS ON 7SC80.



1=CC-1: A (16)
1=PCB2: X1-8 (16)
2=CC-1: B (16)
2=PCB2: X1-7 (16)
4=X3: 3 (16)
5=PCB2: X1-2 (16)
6=PCB2: X1-3 (16)
8=DS1: B (16)
9=7SC80: 15 (16)
11=PB2: 13 (16)
12=PB1: 13 (16)
13=PCB2: X2-4 (16)
14=CC-1: C (16)
14=PCB2: X1-6 (16)
15=7SC80: 34 (16)
15=7SC80: 9 (16)
17=PCB2: X1-9 (16)
18=7SC80: 20 (16)
18=DS1: B (16)
19=PCB2: X1-10 (16)
20=7SC80: 24 (16)
20=7SC80: 18 (16)
21=CB3: 1 (14)
21=7SC80: 40 (16)
22=PCB2: X2-3 (14)
23=PCB2: X1-4 (16)
24=7SC80: 26 (16)
24=7SC80: 20 (16)
25=PCB2: X1-5 (16)
26=7SC80: 33 (16)
26=7SC80: 24 (16)
33=PB1: 14 (16)
33=7SC80: 26 (16)
34=7SC80: 41 (16)
34=7SC80: 15 (16)
40=7SC80: 21 (16)
41=7SC80: 34 (16)
41=X4: 2 (16)
49=X2: 4 (CBL2-BRN)
50=7SC80: 52 (16)
50=GTB: 2 (14 GRN)
51=X2: 5 (CBL2-GRN)
52=7SC80: 54 (16)
52=7SC80: 50 (16)
53=X2: 6 (CBL2-PNK)
54=7SC80: 52 (16)
55=X4: 3 (16)
56=X4: 4 (16)
65=CC-1: J (16)
66=7SC80: 68 (16)
67=CC-1: L (16)
68=7SC80: 70 (16)
68=7SC80: 66 (16)
69=CC-1: N (16)
70=7SC80: 72 (16)
70=7SC80: 68 (16)
71=X2: 3 (16)
72=7SC80: 70 (16)

CB3
1
2
16A
1=R1: 2 (14)
1=7SC80: 21 (14)
2=BTY1: + (14)

CB2
1
2
10A
1=CB1: 1 (16)
2=S3: 1 (16)

CB1
1
2
10A
1=EMC: L' (16)
1=CB2: 1 (16)
2=RCPT: LI-B (16)

RCPT
W
B
LINE
G GFCI
G=GTB: 2 (12 GRN)
LI-B=PS1: 3U (16)
LI-B=CB1: 2 (16)
LI-W=EMC: N'
LI-W=R3: 2 (16)

PB1
11 13
12 14
NC NO
OPEN
13=PCB2: X2-6 (16)
13=7SC80: 12 (16)
14=PB2: 14 (16)
14=7SC80: 33 (16)

PB2
11 13
12 14
NC NO
CLOSE
13=7SC80: 11 (16)
14=X3: 2 (16)
14=PB1: 14 (16)
14=X3: 2

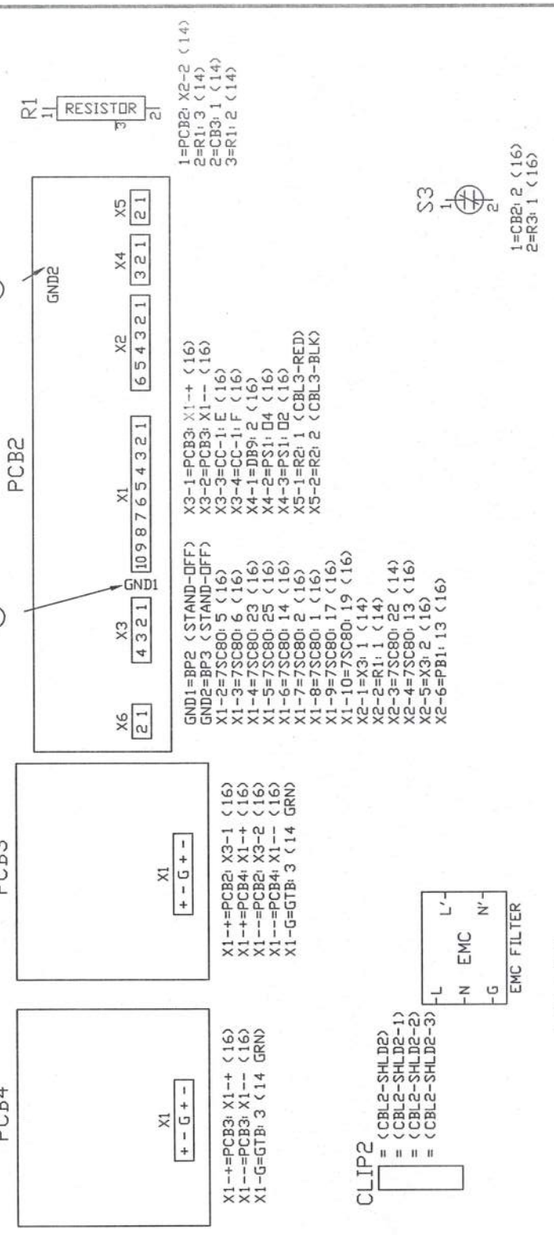
DOOR STUD
=BP1 (12 GRN)
FRONT DOOR

NOTE:
WIRE MARKERS ARE
SOURCE-DESTINATION TYPE.
SOURCE
DESTINATION

SWINGING PANEL (REAR VIEW)

0B	02/02/2016	MFK
ADDED INPUT FOR EXTRA VOLTAGE SENSOR		
0A	10/21/2015	MFK

SIEMENS SALES ORDER: 30169652
LINE ITEM: 101
PRELIMINARY:
APPROVAL: X
CERTIFIED:
PRODUCT TYPE: SDR
SIEMENS
Siemens Industry Inc.
Raleigh, NC
CUSTOMER: MIDCOAST REGIONAL REDEV AUTH
CUSTOMER PROJECT: RECLOSER UPGRADE
GROUP: SDFA - 38kV THREE PHASE
CUSTOMER ORDER: 1009
SCALE: NTS
DRAWN: MFK
APPRV: TH
DOCUMENT NAME: DISTRIBUTION FEEDER AUTOMATION UNIT CONTROL CABINET SWING PANEL WIRING DIAGRAM
DOCUMENT NUMBER: 30169652-SDR-WD01



0B	02/02/2016	MFK	ADDED INPUT FOR EXTRA VOLTAGE SENSOR	0A	10/21/2016	MFK

SIEMENS SALES ORDER: 30169652
LINE ITEM: 101

PRELIMINARY:
APPROVAL: X
CERTIFIED:

CUSTOMER: MIDCOAST REGIONAL REDEV AUTH
CUSTOMER PROJECT: RECLOSER UPGRADE
GROUP: SDFA - 38kV THREE PHASE
CUSTOMER ORDER: 1009

PRODUCT TYPE: SDR

SCALE: NTS
DRAWN: MFK
APPRV: TH

SIEMENS
Siemens Industry Inc.
Raleigh, NC

DOCUMENT NAME:
DISTRIBUTION FEEDER AUTOMATION UNIT
CONTROL CABINET
INTERNAL WIRING

DOCUMENT NUMBER: 30169652-SDR-WD02