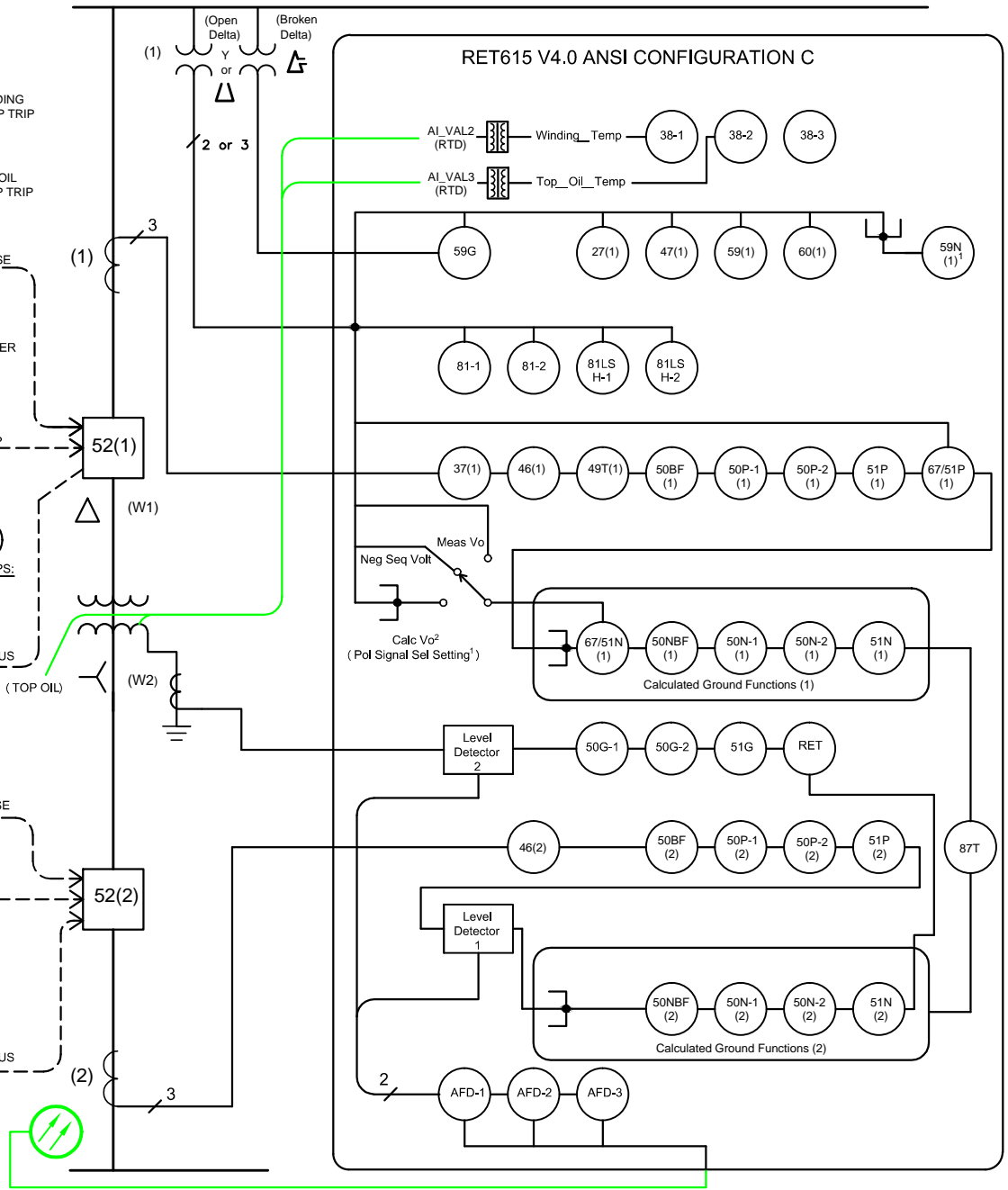
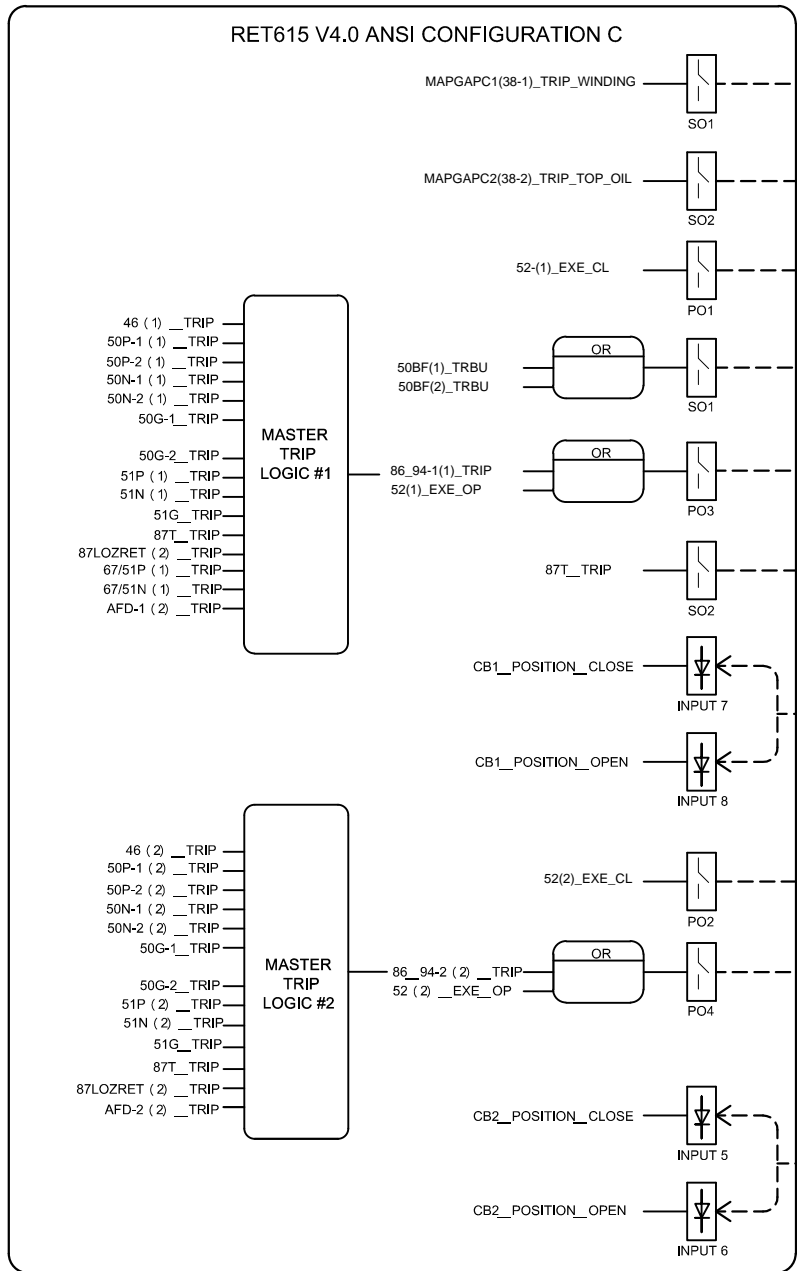


RET615\_HATCCBCAFFE1BNN1XE

RET615 V4.0 ANSI CONFIGURATION C



Notes:

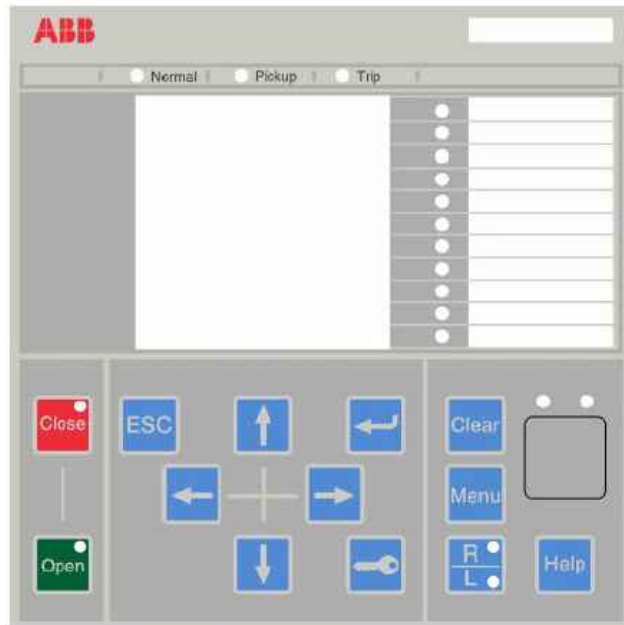
1. Rotary Switch emulates drop down menu for "Pol Signal Sel" parameter setting in PCM600. Switch position shown for default setting (Neg Seq Volt). Switch is typical for all connected functions. Position can be set individually for each function.
2. "Pol Signal Sel" parameter setting "Calc Vo", and 59N(1) functions not applicable for open delta connected VTs.

General Notes:m

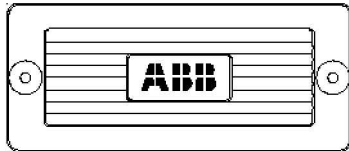
PCM600 ACT ( Application Configuration Tool) logic is shown in default state with exception of 86T lockout relay trip ( contact SO2) .



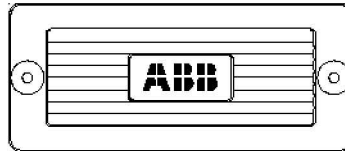
RET615\_HATCCBCAFFE1BNN1XE



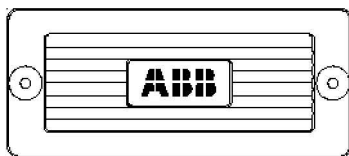
**FT-1/TS1**  
Style No: 774B430G20  
CODE No: 171



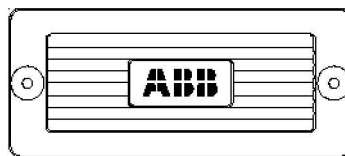
**FT-1/TS2**  
Style No: 129A501G01  
Code No: 001



**FT-1/TS3**  
Style No: 837A407G01  
CODE No: 083



**FT-1/TS4**  
Style No: 129A501G01  
Code No: 001



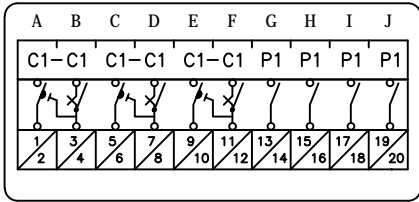
**General Notes:**

1. Style and code numbers for FT-1 switches provide black covers and handles, screw terminals and standard depth. Poles selection follows arrangement shown in this drawing set. For custom designs, different selection options can be made by using FT-1 configurator at [ft1switch.com](http://ft1switch.com)
2. Refer to 615 series ANSI Installation Manual for relay and cutout dimensions ( Document ID: 1MACCO51065-MB, Revision: D, Product version 4.0)



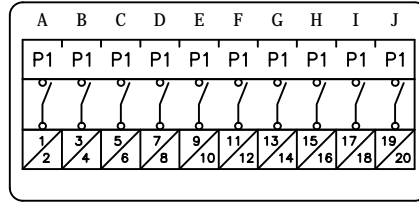
RET615\_HATCCBCAFFE1BNN1XE

PHASE CURRENT  
 ■ IA (1)  
 PHASE CURRENT  
 ■ IB (1)  
 PHASE CURRENT  
 ■ IC (1)  
 PHASE VOLTAGE ■ VA (1)  
 PHASE VOLTAGE ■ VB (1)  
 PHASE VOLTAGE ■ VC (1)



FT-1/TS1

GRUND VOLTAGE ■ VG (1)  
 RELAY POS. VDC  
 RELAY NEG. VDC  
 52 (1) \_\_EXE\_CL (PO1)  
 86\_94-1\_\_TRIP/52 (1) \_\_EXE\_OP (PO3)  
 50BF (1) \_\_TRBU/50BF (1) \_\_TRBU (SO1)  
 87T\_\_TRIP (SO2)  
 CB1\_\_POSITION\_CLOSE (IN7)  
 CB1\_\_POSITION\_OPEN (IN8)

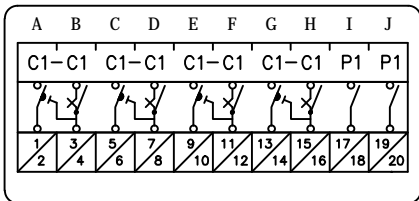


FT-1/TS2

(BREAKER 1 CURRENTS AND BUS 1 PHASE POTENTIALS)

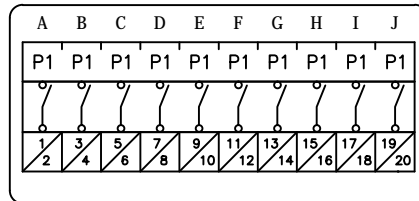
(BUS 1 GROUND POTENTIAL, POWER SUPPLY AND BREAKER 1 BINARY I/O)

PHASE CURRENT  
 ■ IA (2)  
 PHASE CURRENT  
 ■ IB (2)  
 PHASE CURRENT  
 ■ IC (2)  
 GROUND CURRENT  
 ■ IG



FT-1/TS3

MAGAPC1 (38-1) \_\_TRIP\_WINDING (S01)  
 MAGAPC2 (38-2) \_\_TRIP\_TOP\_OIL (S02)  
 52 (2) \_\_EXE\_CL\_\_ (PO2)  
 86\_94-2\_\_TRIP/52 (2) \_\_EXE\_OP (PO4)  
 CB2\_\_POSITION\_CLOSE (IN5)  
 CB2\_\_POSITION\_OPEN (IN6)

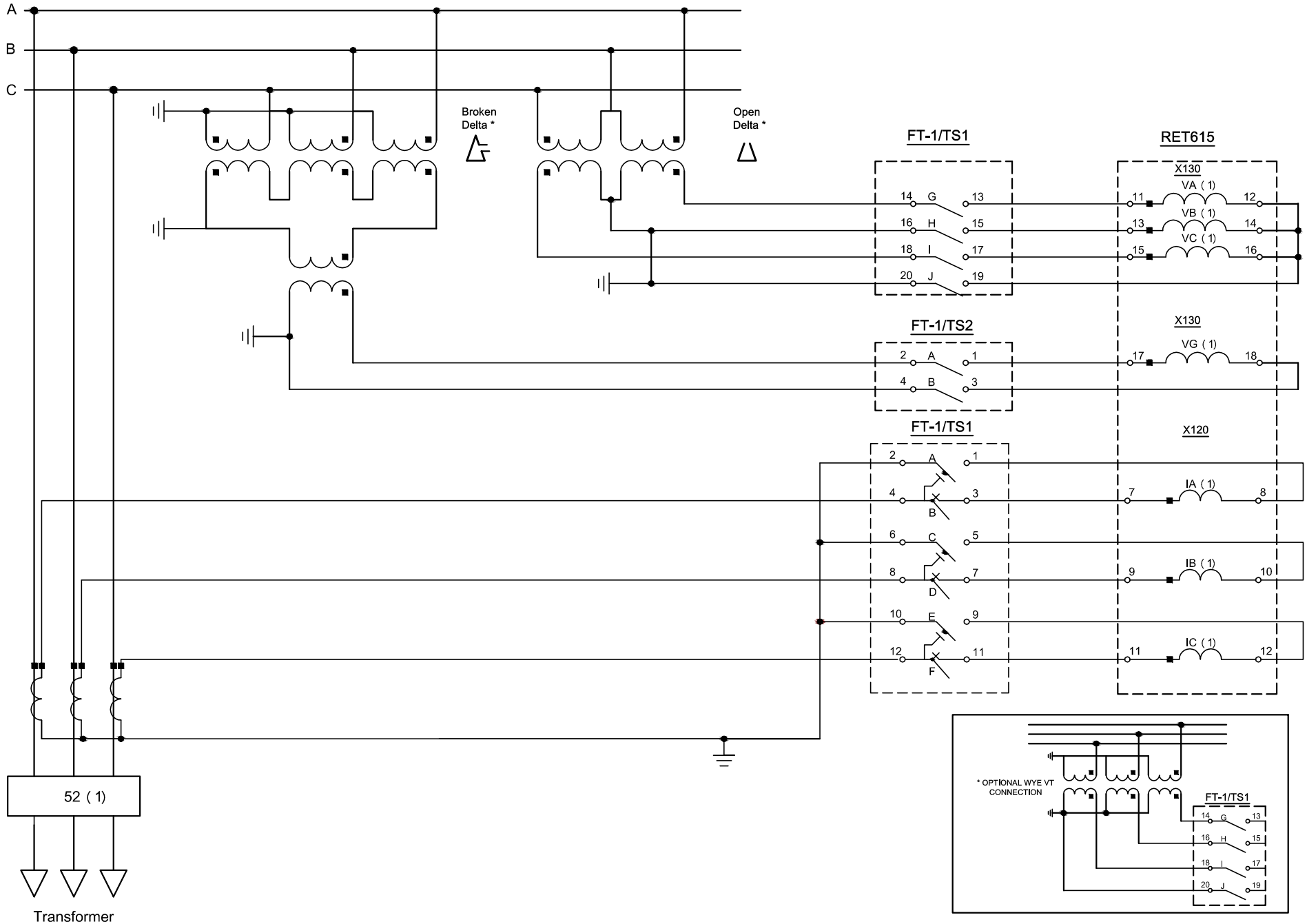


FT-1/TS4

(BREAKER 2 CURRENTS AND TRANSFORMER NEUTRAL CURRENT)

(BREAKER 2 BINARY I/O)

RET615\_HATCCBCAFFE1BCN1XE



TITLE: AC SCHEMATIC (TYPICAL)

RELAY ORDER CODE: HATCCBCAFFE1BNN1XE

SOFTWARE TYPE:  
AUTOCAD 2011

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SIZE DWG. NO.  
A

1MAC208815-DR

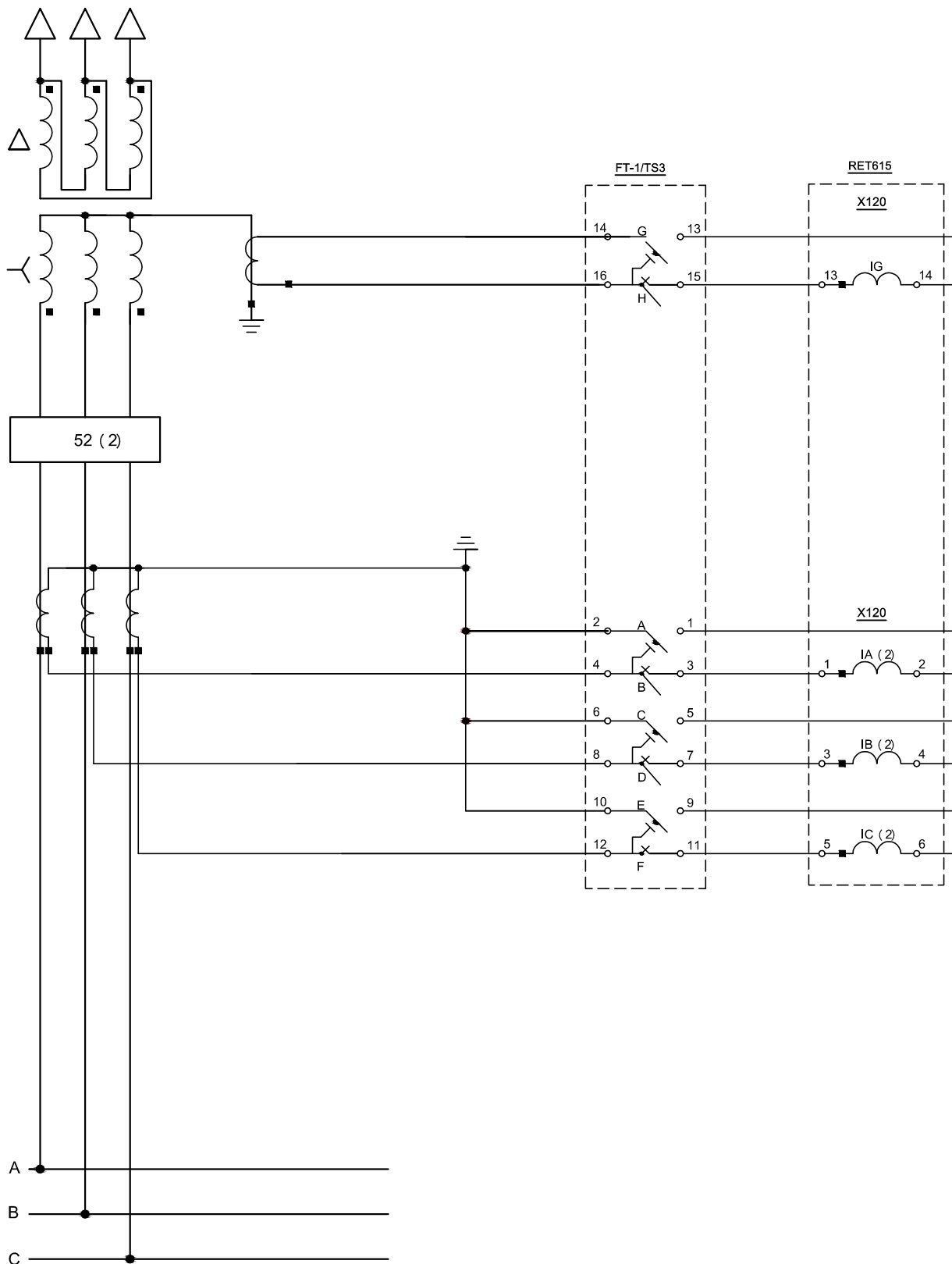
REV.  
B

ABB

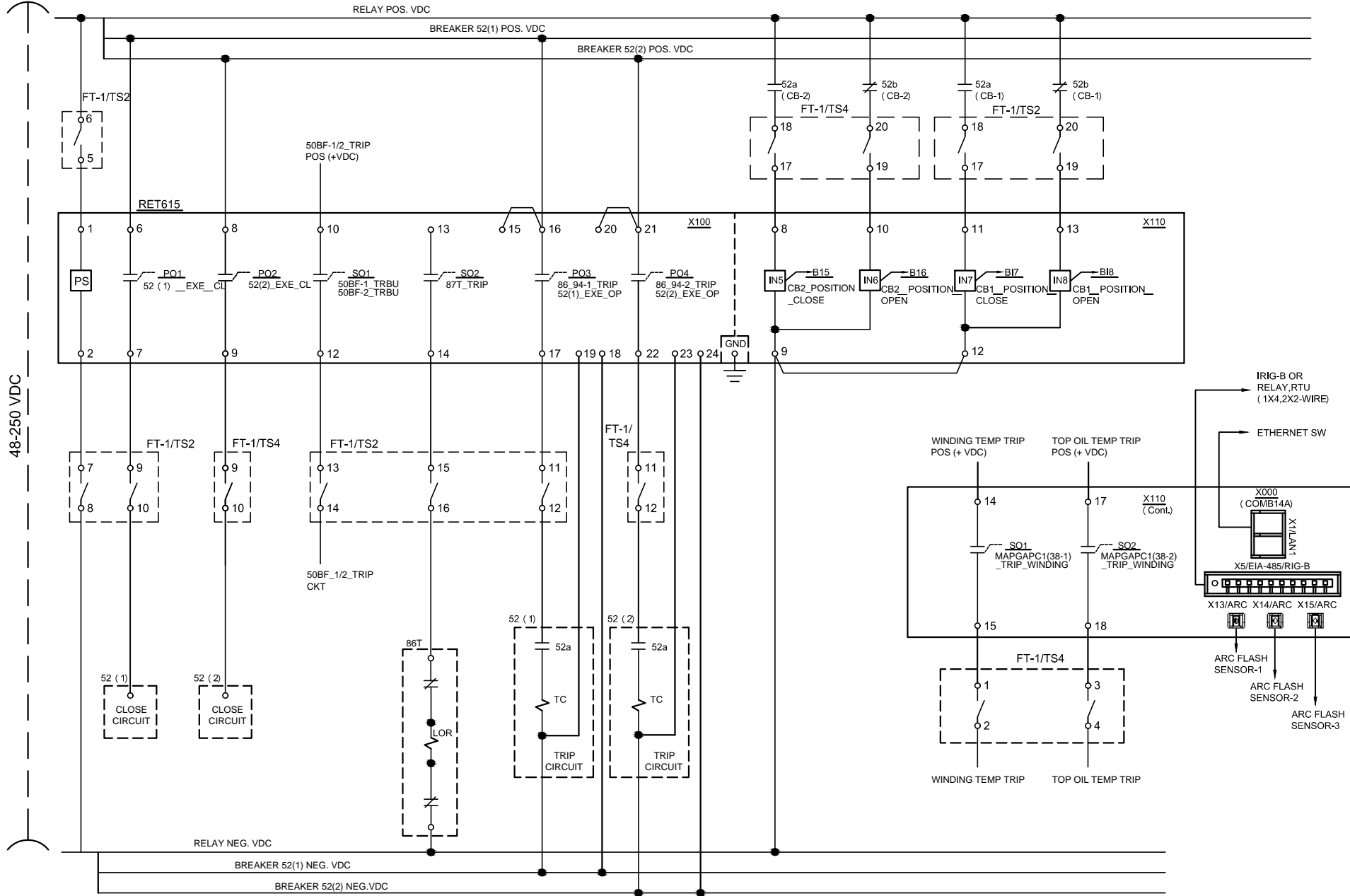
SHEET 4 OF 8

RET615\_HATCCBCAFFE1BNN1XE

Circuit Breaker 52 ( 1 )



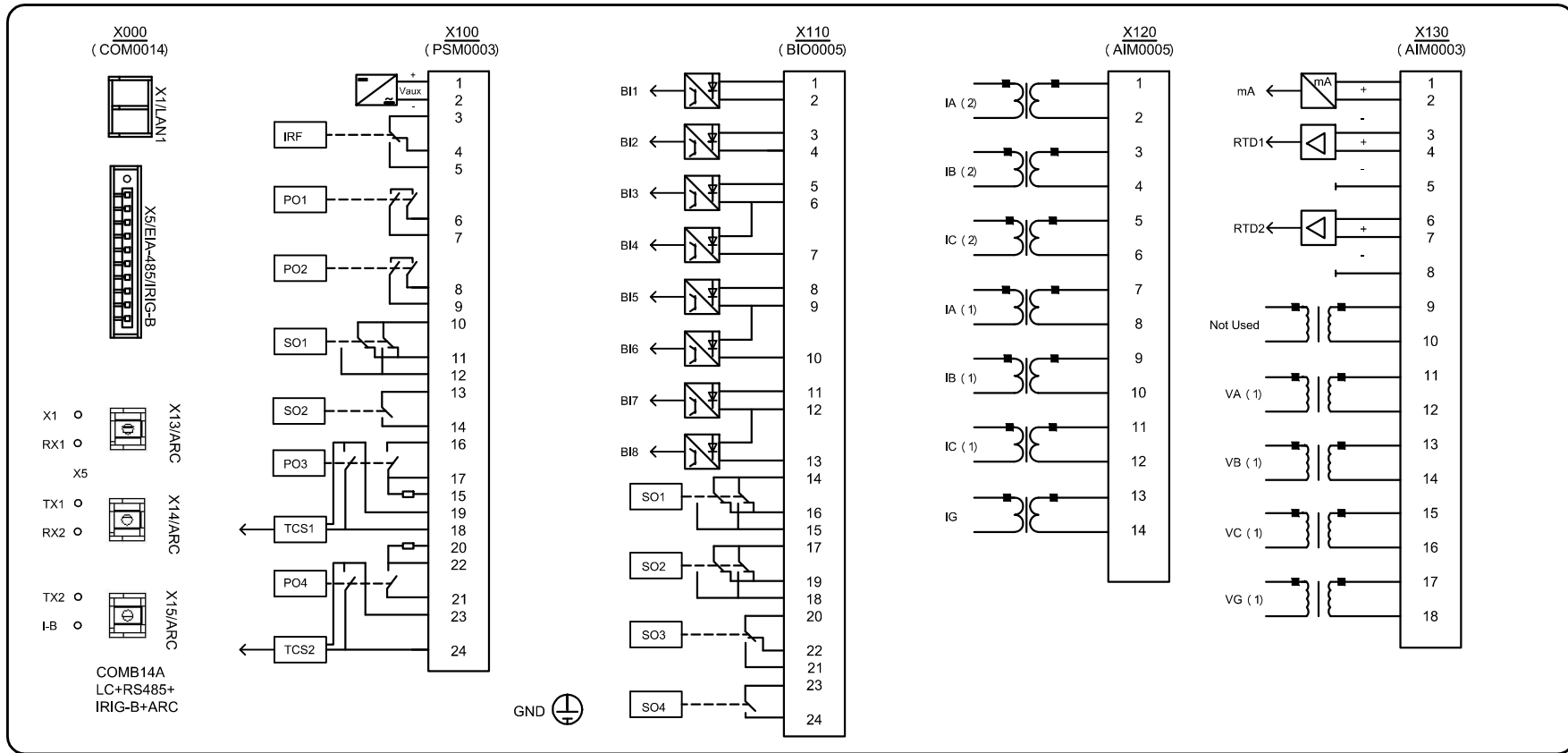
RET615\_HATCCBCAFFE1BNN1XE



**General Notes:**

Binary I/O shown is from default PCM600 Application Configuration Tool (ACT) .  
 Connections shown are typical though more connections may be needed for specific application.

RET615\_HATCCBCAFFE1BNN1XE



RR  
RET615

X000-X1:  
X000-X5:  
X000-X13:  
X000-X14:  
X000-X15:

X100-1: SS5  
X100-2: SS7  
X100-3:  
X100-4:  
X100-5:  
X100-6:  
X100-7: SS9  
X100-8:  
X100-9: UU9  
X100-10:  
X100-11:  
X100-12: SS13  
X100-13:  
X100-14: SS15  
X100-15: X100-16  
X100-16: X100-15  
X100-17: SS11  
X100-18:  
X100-19:  
X100-20: X100-21  
X100-21: X100-20  
X100-22: UU11  
X100-23:  
X100-24:

X110-1:  
X110-2:  
X110-3:  
X110-4:  
X110-5:  
X110-6:  
X110-7:  
X110-8: UU17  
X110-9: X110-12  
X110-10: UU19  
X110-11: SS17  
X110-12: X110-9  
X110-13: SS19  
X110-14:  
X110-15: UU1  
X110-16:  
X110-17:  
X110-18: UU3  
X110-19:  
X110-20:  
X110-21:  
X110-22:  
X110-23:  
X110-24:

X120-1: VV3  
X120-2: VV1  
X120-3: VV7  
X120-4: VV5  
X120-5: VV11  
X120-6: VV9  
X120-7: TT3  
X120-8: TT1  
X120-9: TT7  
X120-10: TT5  
X120-11: TT11  
X120-12: TT9  
X120-13: VV15  
X120-14: VV13

X130-1:  
X130-2:  
X130-3:  
X130-4:  
X130-5:  
X130-6:  
X130-7:  
X130-8:  
X130-9:  
X130-10:  
X130-11: TT13  
X130-12: X130-14  
X130-13: TT15  
X130-14: X130-12, X130-16  
X130-15: TT17  
X130-16: X130-14, TT19  
X130-17: SS1  
X130-18: SS3

GND:

RET615\_HATCCBCAFFE1BNN1XE

