FUNCTION AND TYPE	APPLIES TO	AMP. RANGE	DEFINITE MINIMUM SECONDS	SETTING AMP TAP	SETTING TIME LEVER	MINIMUM PICK-UP AMPERES RELAY COIL	MINIMUM PICK-UP AMPERES 12 KV. BASIS	TIMING SECONDS AT AMPERES	TIMING SECONDS AT AMPERES RELAY COIL	TIMING SECONDS AT AMPERES 12 KV. BASIS	CURRENT TRANSF. RATIO USED	CURRENT TRANSF. MAX. RATIO	REMARKS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	SUBSTATIONS												
TROLLEY OVERCURRENT FOR LOW RUPTURING BREAKERS USED IN CONNECTION WITH HIGH SPEED MASTER BREAKER. TYPE "DB-1673-C"	PAOLI 301, 302, 303 & 304												HIGH SPEED RELAYS
	BRYN MAWR 301, 302, 303 & 304	5-20	—	10.0	INST.	10.0	2000	—	—	—	1000/5	1000/5	CURRENT VALUES
	PAOLI EY & WY	5-20	—	9.0	INST.	9.0	1800	—	—	—	1000/5	1000/5	BASED ON 130 V. D.C.
	PAOLI 11 & 13	5-20	—	6.0	INST.	6.0	1200	—	—	—	1000/5	1000/5	
	PENN. STATION - N.Y.		—	10.0	INST.	10.0	1600	—	—	—	800/5	800/5	HIGH SPEED RELAYS
TROLLEY OVERCURRENT FOR LOW RUPTURING BKRS. USED IN CONNECTION WITH HIGH SPEED MASTER BKR. TYPE "HMO"	UNION		—	8.3	INST.	8.3	1330	—	—	—	800/5		HIGH SPEED RELAYS
TROLLEY OVERCURRENT FOR LOW RUPTURING BKRS. USED IN CONNECTION WITH HIGH SPEED MASTER BKR. TYPE "17LM10AI"	BALTIMORE		—	8.75	INST.	8.75	1400	—	—	—	800/5		HIGH SPEED RELAYS
SHORT CIRCUIT INDICATION FOR TROLLEY SECT. SWS. TYPE "PQ-Y41"	PENN. STATION - N.Y.		—	17-22	INST.	17.5	1400	—	—	—	400/5	400/5	
OPERATION PREVENTION FOR TROLLEY SECT. SWS. TYPE "RAC"	PENN. STATION - N.Y.		—	0.15	INST.	0.15	12.0		—	—	400/5	400/5	HIGH SPEED RELAYS
OPERATION PREVENTION FOR LOW RUPTURING CIRCUIT BKRS. USED IN CONNECTION WITH HIGH SPEED MASTER BKR. TYPE "12PACIIAB"	WAVERLY, GREENVILLE		—	5.0	INST.	5.0	1200	—	—	—	1200/5	1200/5	
TROLLEY LOW RUPT. BKR. OVERL'D TYPE "CO"	PAOLI 11 & 13	4-12		6.0	10	6.0	24				20/5	20/5	

FUNCTION AND TYPE	APPLIES TO	AMP. RANGE	DEFINITE MINIMUM SECONDS	SETTING AMP TAP	SETTING TIME LEVER	MINIMUM PICK-UP AMPERES RELAY COIL	MINIMUM PICK-UP AMPERES 12 KV. BASIS	TIMING SECONDS AT AMPERES	TIMING SECONDS AT AMPERES RELAY COIL	TIMING SECONDS AT AMPERES 12 KV. BASIS	CURRENT TRANSF. RATIO USED	CURRENT TRANSF. MAX. RATIO	REMARKS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TOTALIZING FOR 3-12 KV. CABLE FEEDERS TYPE "CO"	POWER STATION												
	LONG ISLAND CITY POWER STA.			12.0	5.25	11.6	2784	2.2	24.0	5760	1200/5	1200/5	3-1200/5 IN PARALLEL
OVERCURRENT FOR 12 KV. CABLE FEEDERS TYPE "CO"	SUBSTATIONS												
	LONG ISLAND CITY			6.0	3.8	6.0	1440	1.24	18.0	4320	1200/5	1200/5	
	CAPITOL (TO POTOMAC) HIGH	4-15	2	15.0	2.2	15.4	3080	0.75	45.0	9000	1000/5	1500/5	
	CAPITOL (TO POTOMAC) LOW	4-15	2	5.0	3.0	5.0	1000	0.96	20.0	4000	1000/5	1500/5	
STEP-UP TRANSF. GROUND ON LOW SIDE OF TRANSF. TYPE "CO"	STEP-UP STATIONS												
	METUCHEN, ARSENAL BRIDGE	0.5-2.5	2	1.0	0.5	1.0	260	0.35	4.0	1040	2600/5+5/5	5000/5+5/5	
	LAMOKIN SOUTH & BENNING												
	LAMOKIN NORTH	0.5-2.5	2	1.0	0.5	1.0	120	0.35	4.0	480	1200/5+5/5	5000/5 5000/5+5/5	
	RICHMOND	0.5-2.5	2	0.6	0.5	0.6	260	0.35	2.36	1040	4400/5+5/5	5000/5+5/5	
OVERCURRENT FOR 12 KV. OVERHEAD FEEDERS TYPE "IAC12A"	SUBSTATIONS												
	ZOO (TO WEST PHILA. SW. STA.) ARSENAL BRIDGE 1A2	4-15		8.0		8.0	1920	0.42	32.0	7680	1200/5	1200/5	1A9, 1B9
	ARSENAL BRIDGE 1B2												
	WEST PHILA. SW. STA. (TO ZOO & A.B.)	4-15		6.0		6.0	1800	0.15	24.0	7200	1500/5	1500/5	1A9, 1B9, 1A2, 1B2
EMERGENCY OVERCURRENT TYPE "IA-201"	LENNI, LINE #1			4.0	1.0	4.0	1200	0.38	20.0	6000	1500/5	1500/5	USED ONLY WHEN TROLLEY BREAKER IS JUMPERED.
	WESTCHESTER, LINES #1 & 2												
	LENNI, LINE #2			6.0	1.0	6.0	1500	0.5	18.0	5400	1500/5	1500/5	
AUTOMATIC TRIPPING TROLLEY SECT. SW. FOR TROLLEY FAULT TYPE "J" FOR "CV" VOLTAGE RELAY SETTING SEE DWG. #2208.	LANDLITH (WILM. SHOP) (FOR PROTECTION SCHEME SEE DIAG NO. 1150)			6.75	INST.	6.75	1620				1200/5	1200/5	HIGH SPEED RELAY AUTO. TRANSF. SET AT 180/180 TURNS.

NOTE
1) TIME LEVER SETTINGS GIVEN ARE ONLY APPROXIMATE; TIMING VALUES TO BE USED FOR ACCURATE SETTING.

DATE	ISSUE	APPROVAL	REMARKS
12-19-46	5		PICK UPS CO. REVISED FOR CHANGE IN C.T. RATIO
12-9-40	4		CHANGED SETTING OR RELAY
10-31-40	3		CHANGED SETTING OR RELAY.
10-8-38	2		CORRECTED FOR HARRISBURG ELECT.
10-28-35	1		ORIGINAL ISSUE

THE PENNSYLVANIA RAILROAD
EASTERN ELECTRIFICATION
RELAY DATA FOR 25 CYCLE SYSTEM
OVERCURRENT RELAYS
PHILADELPHIA, PENNA.
№ 2201B

CHIEF OF MOTIVE POWER. — ELECTRICAL ENGINEER

② 10/5/38 AB ③ 10-31-40 CLT ④ 12-9-40 ⑤ 12-19-46