



GENERAL CHARACTERISTICS



ACCORDANCE WITH STANDARDS APPROVAL
TEMPERATURE LIMITS
USAGE ALTITUDES
PROTECTION DEGREE
MECHANICAL DURABILITY (mil. cycles)
ELECTRICAL LIFE (mil. cycles)
N. OF OPERATIONS PER HOUR IN AC-3 (n. cycles)

EN 60947-4-1, UL508, VDE 0660, BS 5424
 Lloyd's register of shipping, UL, CSA
 Storage $\geq -30^{\circ}\text{C}$ \div $\leq +65^{\circ}\text{C}$ - operation $\geq -25^{\circ}\text{C}$ \div $\leq +40^{\circ}\text{C}$
 2.000 m
 IP 20 SMALL / MEDIUM / LARGE - IP 00 XLARGE / XXLARGE
 2.5 SMALL - 15 MEDIUM - 10 LARGE - 5 XLARGE - XX LARGE
 2.5 SMALL - 2 MEDIUM / LARGE - 1 XLARGE / XXLARGE - 0,5 XXLARGE (400-630-800)
 1800 SMALL / MEDIUM - 1200 LARGE - XLARGE - XXLARGE

CERTIFICAZIONE



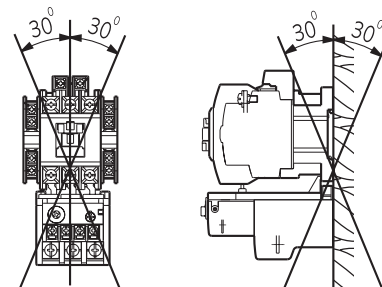
NUMBER OF POLES
RATED INSULATION VOLTAGE U_i
MAXIMUM MAKING CAPACITY
MAXIMUM BREAKING CAPACITY
COIL OPERATING LIMITS

3
 690V - (1000V LARGE)
 0 X I_e in cat. AC-3
 8 X I_e in cat. AC-3
 -15% - +10% U_c (rated control voltage)

RATED INSULATION VOLTAGE U_i RELAY
RELAY TRIPPING CLASS IN ACCORDANCE WITH IEC-947-4-1
RELAY AUXILIARY CONTACTS
RELAY RESET TYPE
DISSIPATED POWER FOR EACH RELAY PHASE

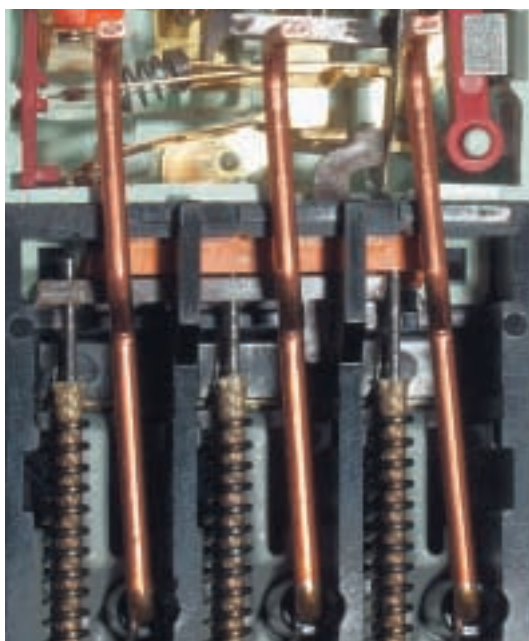
690V - (1000V R85 - R125 - R150 - R240 - R400 - R800)
 10A (tripping time from 2 up to 10s)
 1NO + 1NC
 manual or automatic selectable
 1,8VA R22 / 2VA R40 / 3,5VA R85
 2,3VA R125 - R150 - R240 - R400 - R800

MOUNTING POSITION

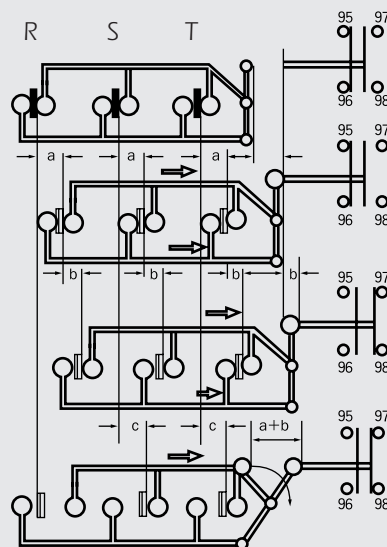


090

EXCLUSIVE AMPLIFIED DIFFERENTIAL LEVER TRIPPING MECHANISM



- 1) NO LOAD STATE
- 2) OPERATION AT THE RATED CURRENT STATE
- 3) OVERLOAD STATE
- 4) R PHASE FAILURE STATE





AUXILIARY CHARACTERISTICS



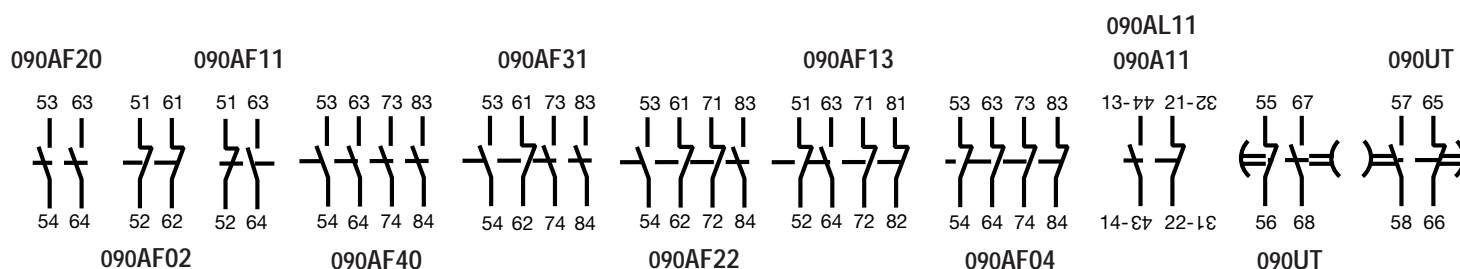
220V 60Hz (50Hz)	Coil consumption [VA]			Coil operating limit [V]		Coil current [mA]	Operating time (ms)	
	Pick-up	Sealed	Dissipation [W]	Pick-up	Drop-out		Pick-up	Drop-out
9-12-18-22	95	9	2	141-156(142-157)	105-125(112-132)	41(36)	10-17	6-9
32-40	95	9	2	150-165(151-166)	110-130(117-137)	41(36)	11-19	6-10
50-65-75-85	220	17	5	145-160(146-161)	100-120(107-127)	77(68)	16-25	8-15
100-125	298	12.3	4.4	77	48	56	30-34	63-67
150	298	12.3	4.4	77	48	56	37-41	47-52
180-220	380	11.6	4.7	77	48	53	45	45
300-400	571	14	5	77	48	64	45-50	48-52
600-800	1000	29	7.8	150	91	132	66-69	55

110V 60Hz (50Hz)	Coil consumption [VA]			Coil operating limit [V]		Coil current [mA]	Operating time (ms)	
	Pick-up	Sealed	Dissipation [W]	Pick-up	Drop-out		Pick-up	Drop-out
9-12-18-22	95	8	2	75-85(74-84)	55-65(54-64)	-73(73)	11-18	6-9
32-40	95	8	2	75-85(74-84)	55-65(54-64)	73(73)	13-20	6-9
50-65-75-85	220	17	5.5	68-78(67-77)	40-50(39-49)	154(154)	16-25	9-16
100-125	162	9.8	3.1	77	48	89	46-50	49-53
150	162	12.2	3	77	48	111	56-60	44-48
180-220	220	9.1	3.4	77	48	83	60	41
300-400	393	14	4.4	77	48	128	64-68	43-47
600-800	1000	17	6.3	77	48	155	66-70	45-49

AUXILIARY ELECTRICAL CHARACTERISTICS

lth	RATED CURRENT									Number operation/h	Mech. life	ELECTRICAL LIFE [op x 10.000]			
	AC-15				DC-13							AC-15 220V/440V	AC-12 220V/440V	DC-13 24-220V	
	120V	240V	480V	600V	125V	250V	440V	600V							
	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]							
090AL	6	5	3	3	1.1	0.55	0.31	0.2	1800	20	50	25	50		
090AF	6	3	1.5	1.2	1.1	0.55	0.31	0.2	1800	20	50	25	50		
090A	6	5	3	3	1.1	0.55	0.31	0.2	1800	20	50	25	50		

AUXILIARY CONTACTS





GENERAL CHARACTERISTICS



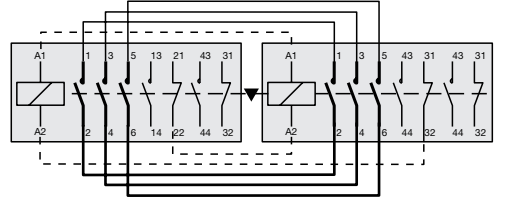
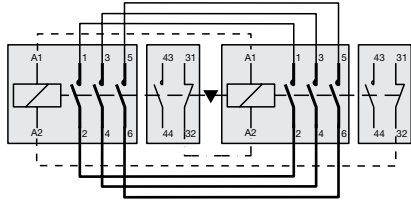
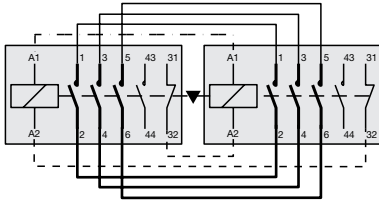
MECHANICAL INTERLOCK CIRCUIT DIAGRAM

SECTIONS

9 12 18 22

32 40 50 65 75 85

105 120 150 180 250 300 400 600 800



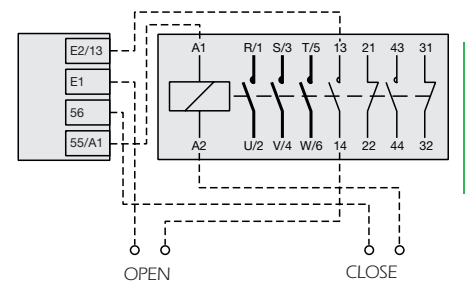
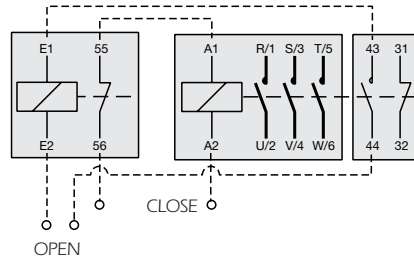
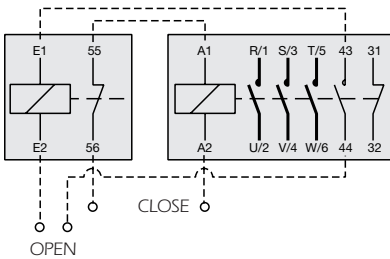
MECHANICAL LATCH CIRCUIT DIAGRAM

SECTIONS

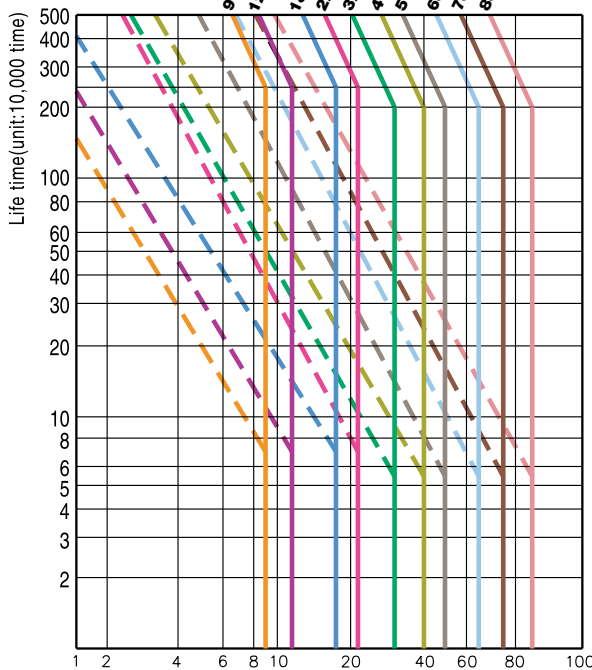
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32 40 50 65 75 85

105 120 150 180 250 300 400 600 800

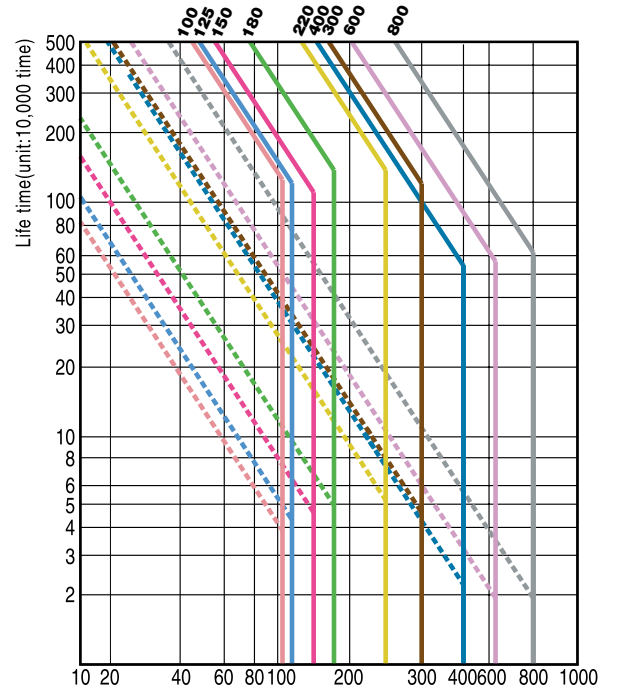


3 ϕ AC380-440V



(A) (kW) 1.5 2.2 3.7 5.5 7.5 11 15 22 30 37 45

3 ϕ AC380-440V



(A) (kW) 55 60 75 90 132 160 220 330 440

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RELAY CURVE CHARACTERISTICS



SECTIONS

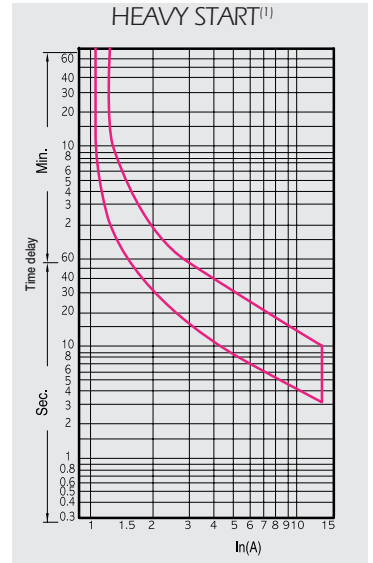
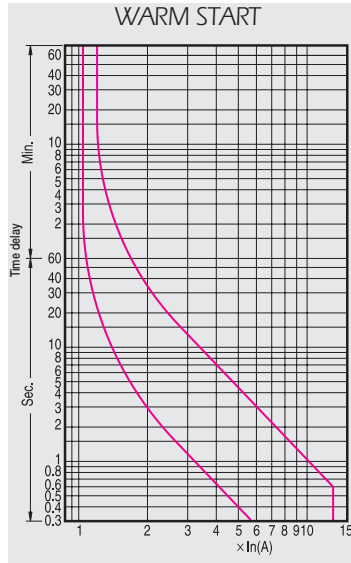
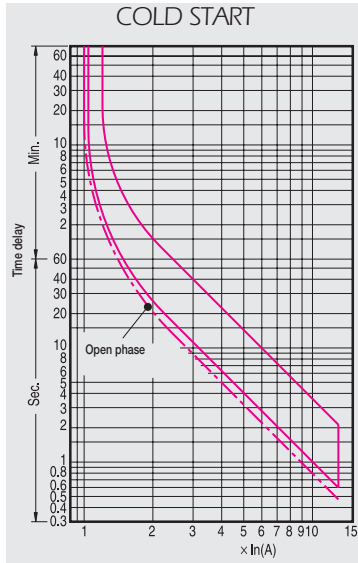
9

12

18

22

090R22

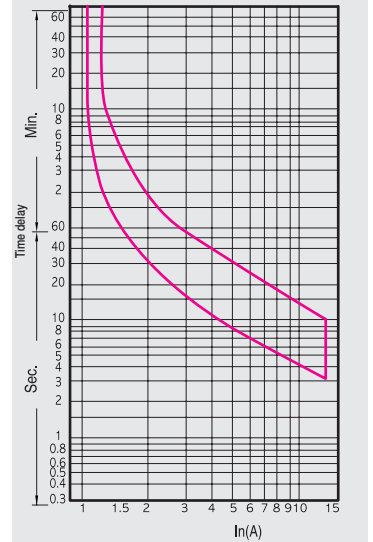
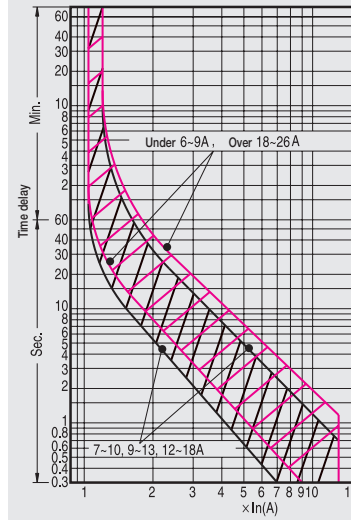
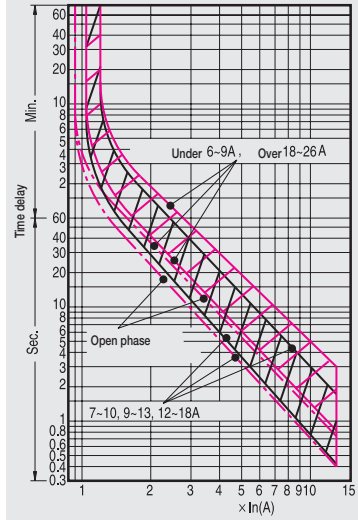


090

32

40

090R40



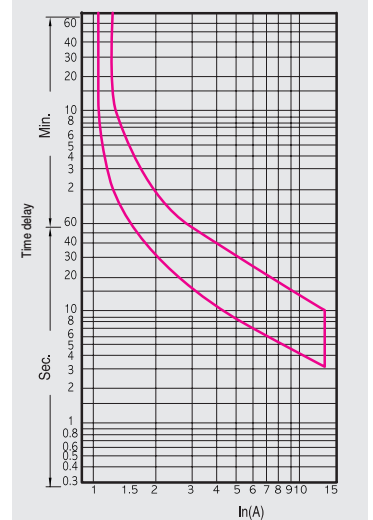
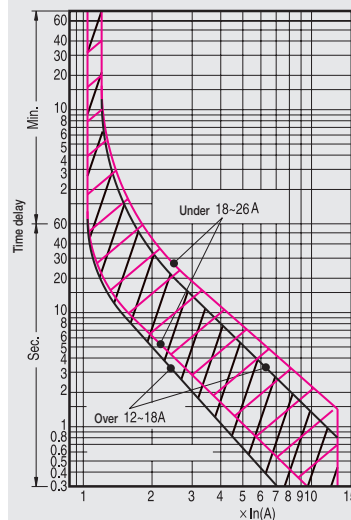
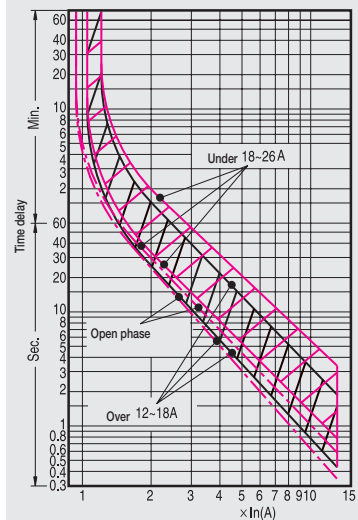
50

65

75

85

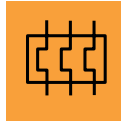
090R85



1) For availability relays in tripping class 20 contact our sales net
Class 20 relays = tripping time from 6s up to 20s



RELAY CURVE CHARACTERISTICS



SECTIONS

090R105

105

120

090R150

150

090R240

150

180

250

090R400

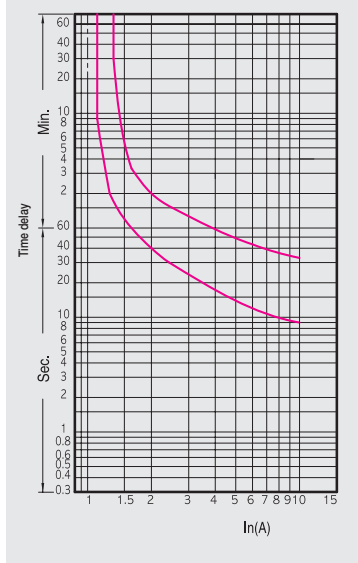
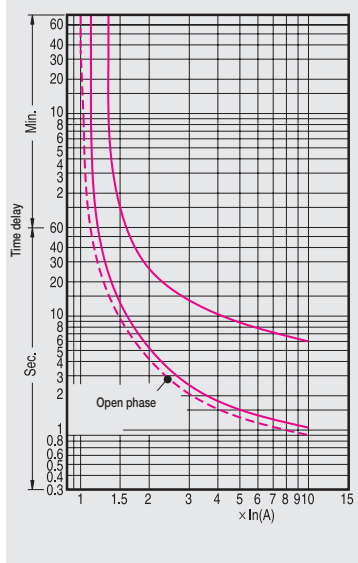
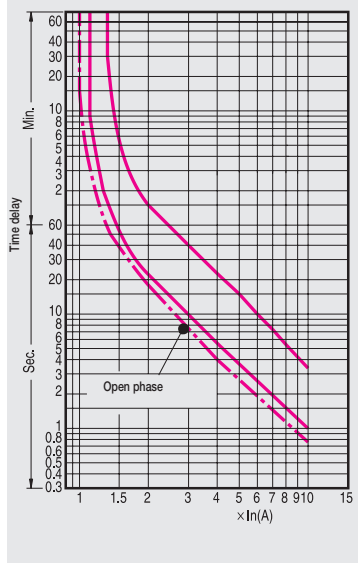
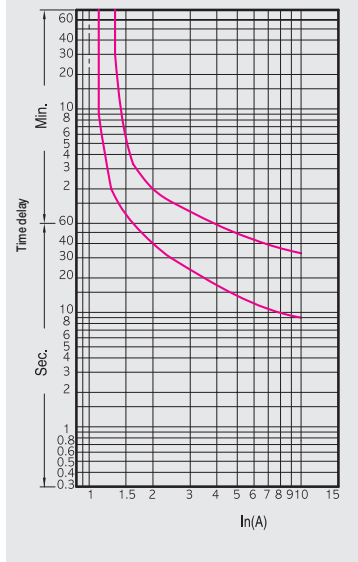
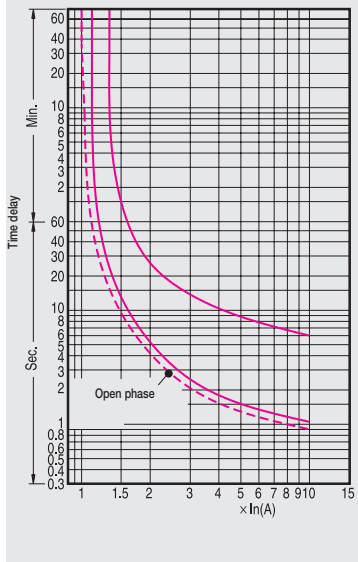
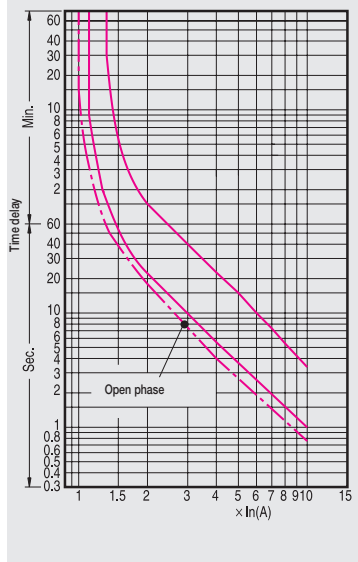
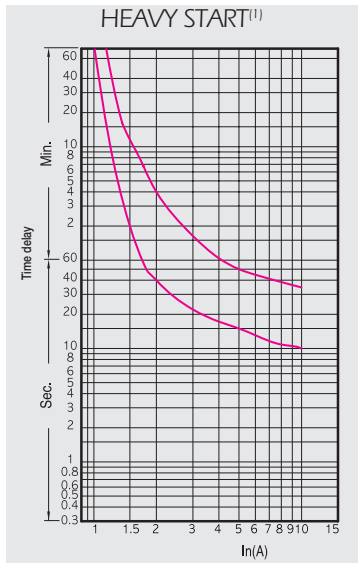
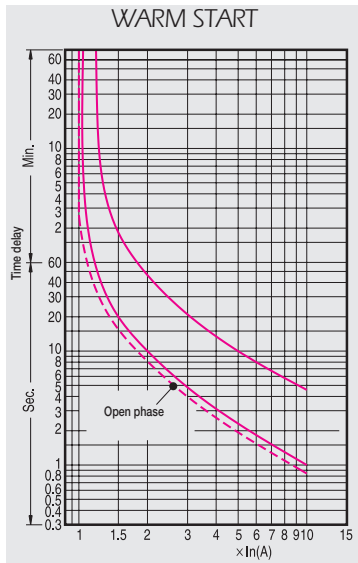
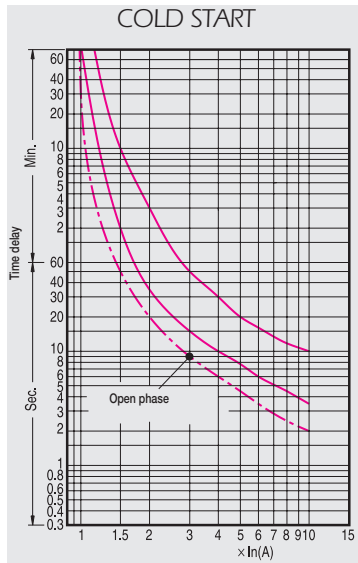
300

400

090R800

600

800



090



1) For availability relays in tripping class 20 contact our sales net
Class 20 relays = tripping time from 6s up to 20s