

## ICL Series Rail-Mount Hydraulic Magnetic Circuit Breaker



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# AIRPAX® | ICL Series

## Rail-Mount Hydraulic Magnetic Circuit Breaker

### INTRODUCTION

Designed specifically for 35mm DIN rail, Airpax ICL series Rail-Mount Hydraulic Magnetic circuit breakers offer the advantage of quick and easy mounting or removal which results in efficient and economical wiring while conserving space.

These circuit breakers are available in 1, 2, 3 pole models with a choice of handle color with on/off and international I/O markings. These breakers are approved to CCC, CCRC, UL (pending) and IEC (pending) standards. Typical applications include railway signal equipment, computers, telecom/datacom equipment, telecommunications, medical equipment, residential equipment, industrial equipment etc. They provide the reliable performance associated with hydraulic magnetic circuit protection.

These circuit breakers are designed to mount on standard 35mm DIN rails, such as 35x7.5 or 35x15 DIN EN50022.

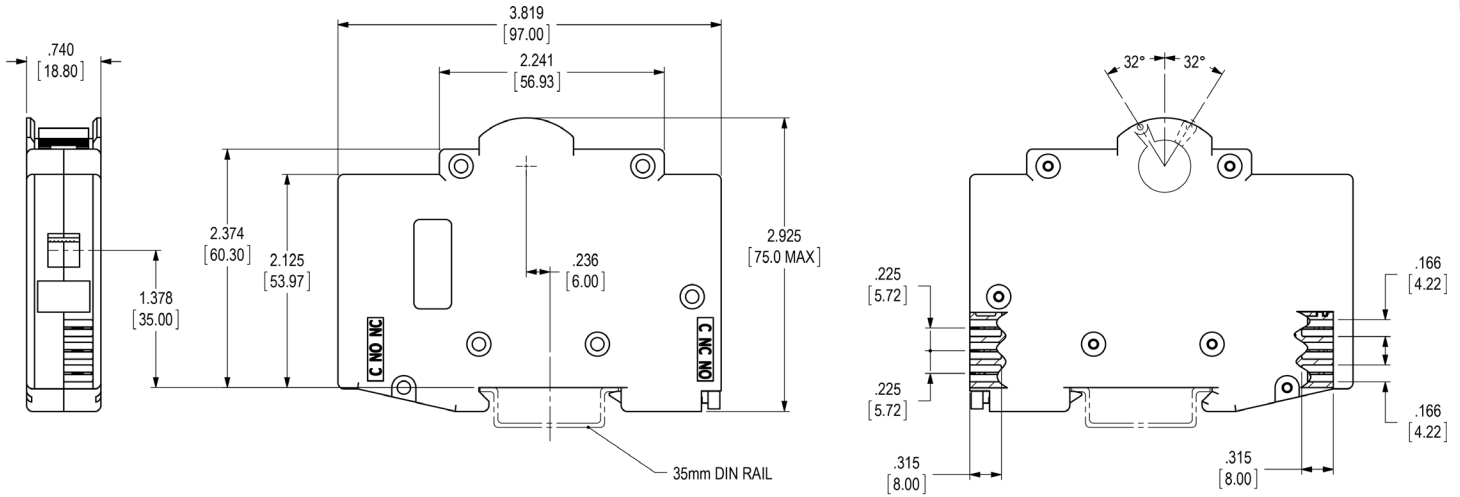
### FEATURES

- Hydraulic-Magnetic technology
- Up to 3 poles, 0.5 amps to 63 amps rated current at up to 415 VAC
- CCC and CCRC approved
- UL1077 recognized (supplementary breaker) (pending)
- IEC approved (pending)
- Up to 10,000AIC short circuit amperage rating
- Available in various current and time delays
- Precise trip characteristics
- Trip indication with mid-trip position
- Auxiliary and alarm switches are available

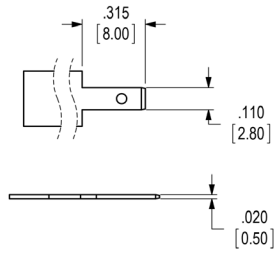
### SPECIFICATIONS

Agency Certification	Rated Amperage	Maximum Voltage	Short Circuit Amperage
UL 1077 (pending)	2 to 20 amps	240 VAC, 50/60 Hz	5000
IEC (EN60947-2) (pending)	2 to 20 amps	240 VAC, 50/60 Hz	5000

# CONFIGURATIONS



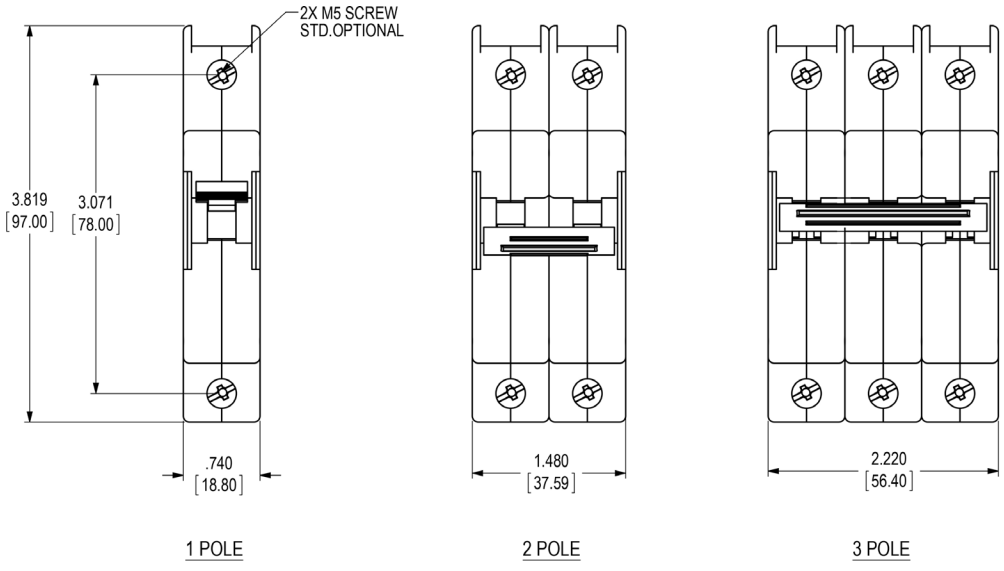
OUTLINE



QC TERMINAL DIMENSIONS

QUICK CONNECT TERMINALS

NOTE: RECOMMENDED TO MATE WITH TYCO 110 SERIES.

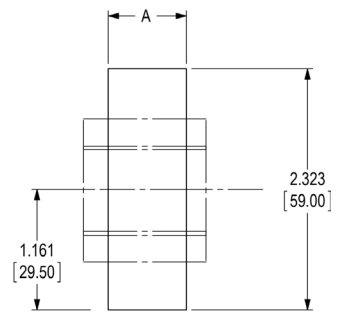


1 POLE

2 POLE

3 POLE

RECOMMENDED MOUNTING PANEL DIMENSIONS



DIMENSION "A"	
1 POLE	0.755 [19.18] min
2 POLE	1.520 [38.61] min
3 POLE*	2.270 [57.66] min

NOTE: 3 POLE TYPE IS BEING DEVELOPED

## PERCENTAGE OF RATED CURRENT VS. TRIP TIME IN SECONDS

% Overload - Trip Time in Seconds								
Delay	100%	125%	150%	200%	400%	600%	800%	1000%
51	NO TRIP	.5-6.5	.3-3	.1-1.2	.031-.5	.011-.25	.004-.1	.004-.08
52	NO TRIP	2-60	1.8-30	1-10	.15-2	.015-1	.008-.5	.006-.1
53	NO TRIP	80-700	40-400	15-150	2-20	.015-9	.015-.55	.012-2
59	NO TRIP	.120 MAX.	.100 MAX.	.050 MAX.	.022 MAX.	.017 MAX	.017 MAX.	.017 MAX.
61	NO TRIP	.7-12	.35-7	.130-3	.030-1	.015-.3	.01-.15	.008-.1
62	NO TRIP	10-120	6-60	2-20	.2-3	.015-.8	.015-.8	.01-.25
63	NO TRIP	50-700	30-400	10-150	1.5-20	.013-.85	.013-.85	.013-.5
69	NO TRIP	.120 MAX	.100 MAX	.050 MAX.	.022 MAX.	.017 MAX.	.017 MAX.	.017 MAX.
71	NO TRIP	.44-10	.3-7	.1-3	.03-1	.012-.3	.004-.15	.004-.1
72	NO TRIP	1.8-100	1.7-600	1-20	.15-3	.015-2	.008-.79	.006-.28
73	NO TRIP	50-600	30-400	10-150	1.8-20	.015-10	.015-.88	.011-.5
79	NO TRIP	.120 MAX	.100 MAX	.050 MAX	.022 MAX	.016 MAX	.015 MAX	.015 MAX

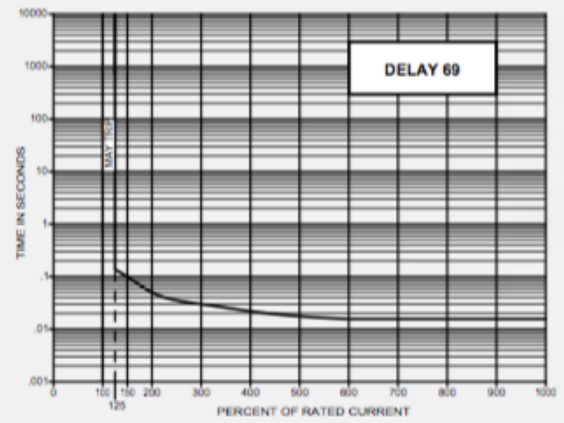
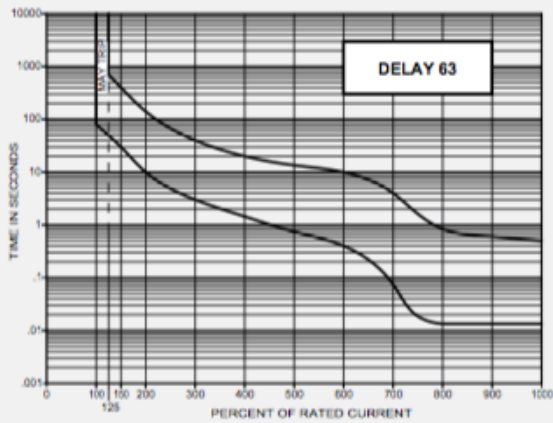
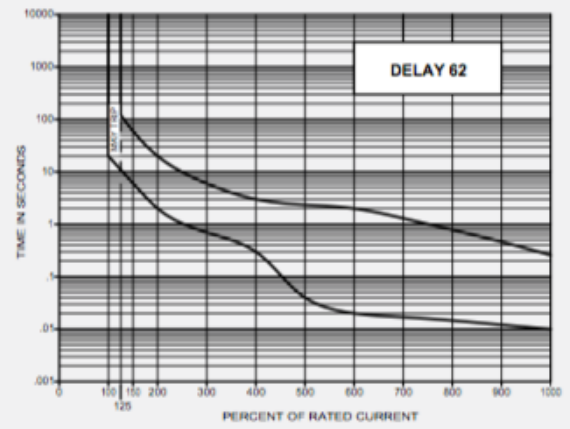
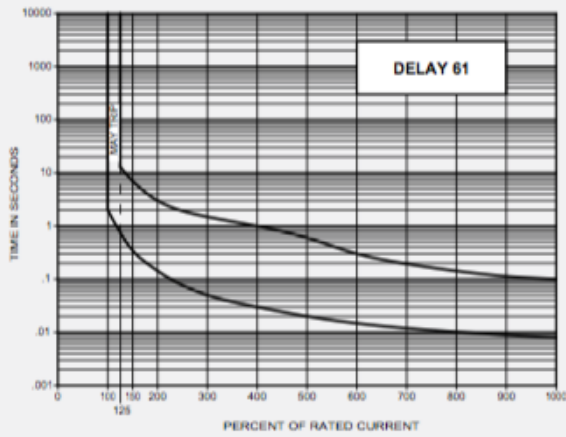
## INRUSH PULSE TOLERANCE

Delay	Pulse Tolerance
61, 62, 63, 71, 72, 73	10X (approx.) Rated Current

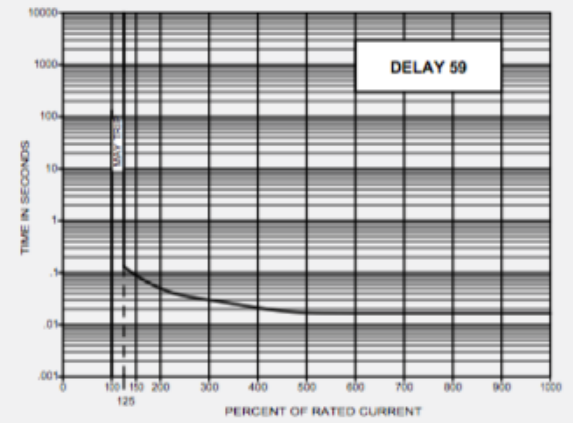
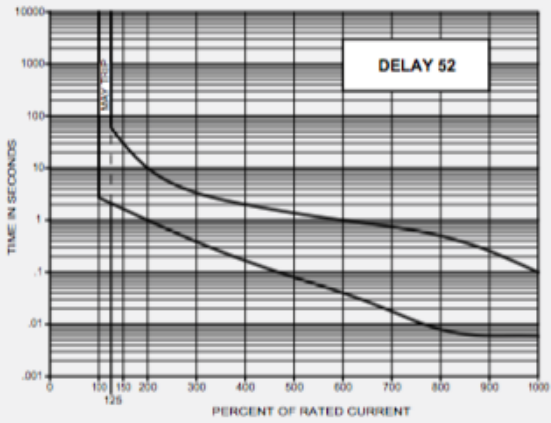
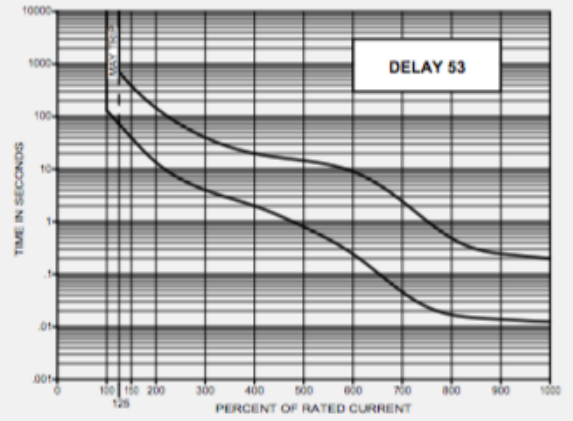
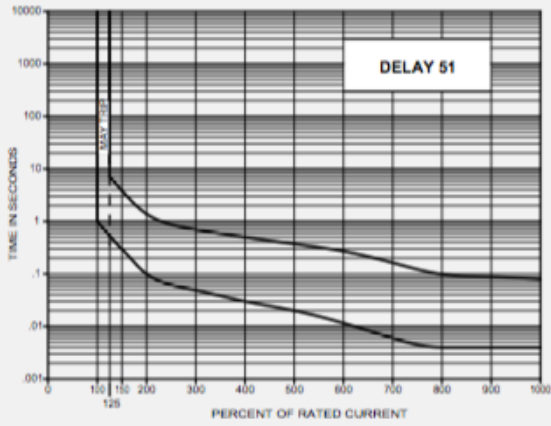
## TYPICAL RESISTANCE / IMPEDANCE

Typical Breaker Resistance / Impedance Chart		
Current Rating (Amps)	DC Resistance (Ohms)	50/60 Hz Impedance (Ohms)
	51, 52, 53, 59	61, 62, 63, 64, 65, 66, 69
.200	45.8	28.5
1.0	1.38	1.10
2.0	.371	.29
5.0	.055	.051
10.0	.017	.016
20.0	.006	.006
30.0	.003	.004
50.0	.0019	.0018
63.0	.00157	.00134

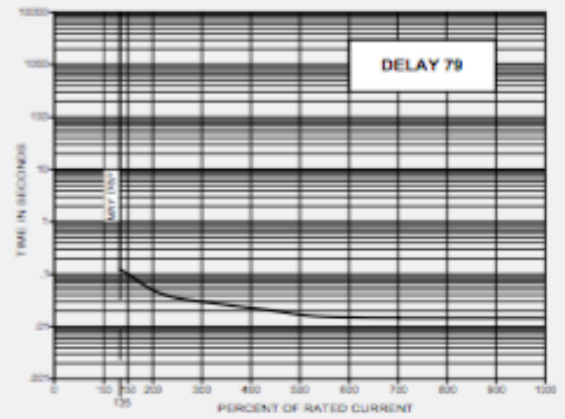
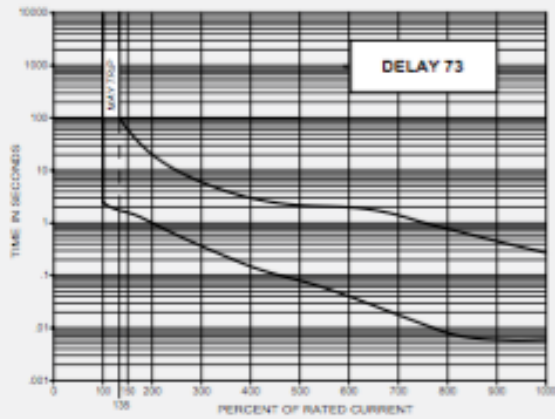
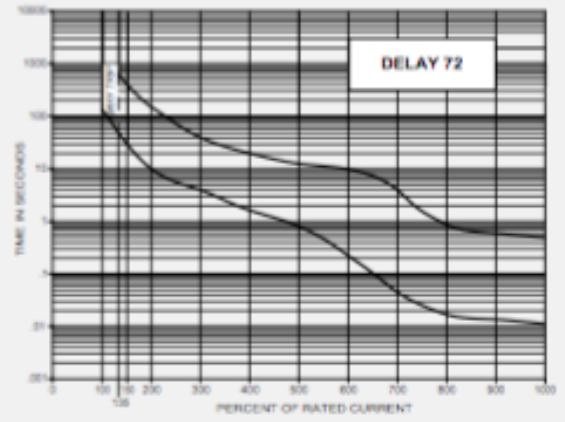
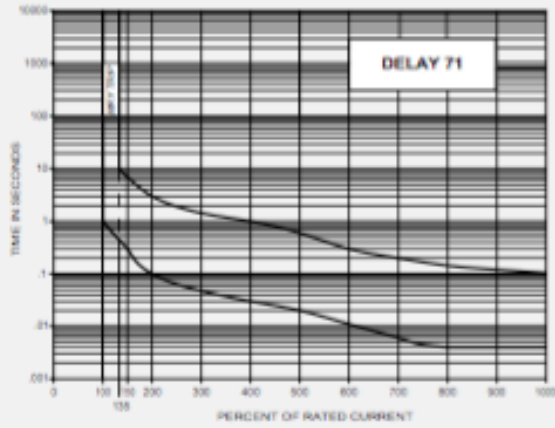
## AC DELAY CURVES



## DC DELAY CURVES



## DC/50/60Hz DUAL-FREQUENCY DELAY CURVES





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## DECISION TABLES

# ICLR11-1-61-10.0-A-01-C

First Decision	
Type	Description
ICLR	One handle per unit
ICLHR	One handle per pole
ICLRM	One handle per unit, mid-trip position
ICLHRM	One handle per pole, mid-trip position

Second Decision	
Poles	
1	One poles
11	Two poles
111	Three poles

Third Decision	
Construction	
0	Switch only
1	Series
1A	Series with position switch
1B	Series with alarm switch
1C	Series with position & alarm switch

Fourth Decision	
Frequency and Delay	
51	DC Short Delay
52	DC Long Delay
53	DC Extra Long Delay
59	DC 125% Instant Trip
61	50/60 Hz Short Delay
62	50/60 Hz Long Delay
63	50/60 Hz Extra Long Delay
69	50/60 Hz 125% Instant Trip
71	DC/60 Hz Short Delay
72	DC/60 Hz Long Delay
73	DC/60 Hz Extra Long Delay
79	DC/60 Hz 135% Instant Trip
SW	Switch Only

## Fifth Decision

## Rated Current (Amps)

Use three numbers to print required value (see ratings table on sheet 1 for amp range. According to max. volts and agency.)

## Sixth Decision

A	Metric thread mounting
B	80VDC
C	110VDC
D	240VAC, I <sub>CU</sub> : 3kA
E	240VAC, I <sub>CU</sub> : 6kA
F	220VDC, 2 pole
G	415VAC, 2 pole
H	Cover venting type
I	415VAC, 3 pole
T	Test button

## Seventh Decision

## Handle Color

00	Black Handle
10	Yellow Handle
20	Red Handle
90	White Handle

## Eighth Decision

## Agency Approvals

C	CCC
R	CRCC
U	UL1077 (pending)
N	No Agency
I	IEC EN60947-2 (pending)

