

NOARK

Data Sheet

Power Circuit Breakers and Non-Automatic Switches

A40 and ASD40



A40 Series Power Circuit Breakers

Product Overview

A40 Power circuit breakers and the accessories conform with ANSI C37.13, C37.16, C37.17 and C37.50 standards and are UL 1066 certified.

A40 Power Circuit Breakers are available up to 4000 amps and are capable of interrupting ratings up to 100kA at 635 Volts, the maximum voltage can be up to 847Vac. UL Listed and CSA Certified, the A40 family of products provide design standardization for OEM's no matter where they do business. A40 breakers offer a broad range of available trip units, accessories, and communications options. They are the ideal OEM solution for low voltage switchgear and customized power distribution assemblies used in Data Centers, Standby Power, Industrial, Healthcare and Commercial applications.

Ratings

- 254Vac to 847Vac
- 4000A
- Interrupting Capacity ratings up to 100kA@635Vac and 85kA at 847Vac
- Short-Time Withstand, 100kA@635Vac and 85kA at 847Vac
- 50 or 60 HZ operation
- 3 Pole and 4 Pole designs
- 10,000 Operations, before maintenance (Mechanical)
- 4000 cycles @ 635Vac, 3000 cycles @ 847Vac before maintenance (Electrical)
- Meets ANSI C37.13, C37.16, C37.17 and C37.50

Approvals

- UL 1066, Low-Voltage AC and DC Power Circuit Breakers
- ANSI C37.13 Low Voltage Power Circuit Breakers
- ANSI C37.16 Low Voltage Power Circuit Breakers Ratings, Related Requirements and Applications
- ANSI C37.17 – IEEE Standard for Trip Systems
- ANSI C37.50 – Low Voltage AC Power Circuit Breakers, Test Procedure

Protection & Control Options

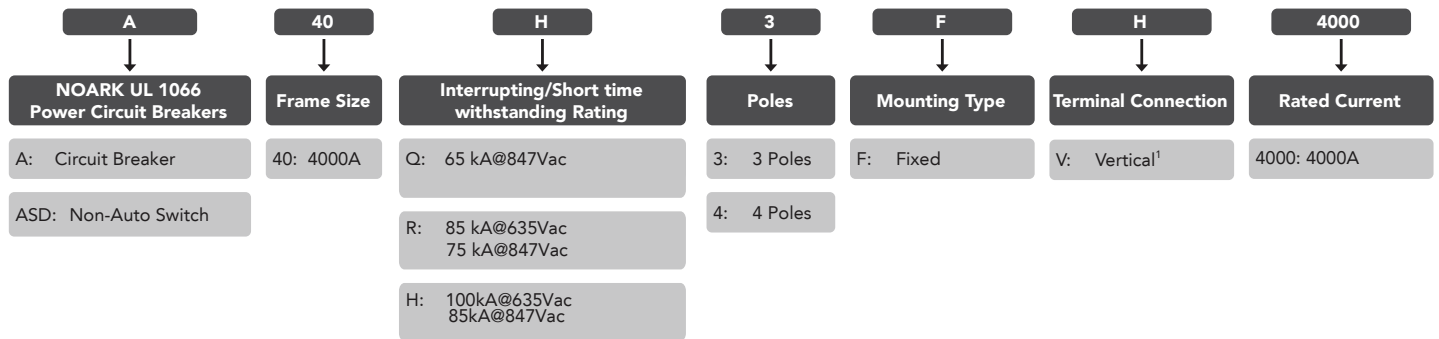
- LI, LSI, or LSI Protection
- Standard LED display
- Color LCD display available
- Optional multi-metering trip unit with total harmonic distortion analysis and waveform capture
- Stored energy operating mechanism
- AC and DC rated motor operator, shunt trip and undervoltage release accessories
- Arc Flash Reduction Maintenance Mode
- ELM10 maintenance Switch, compatible with 'H' model trip unit only.
- Voltage Conversion Module VCM10 for high voltage protections
- Neutral CT NCT12N & RCT-1800 for neutral protections
- Zone Selective Interlocking
- RS-485 Modbus Communication available

Design Features

- Compact size with 3P breaker width 17.76 inches (451MM) only
- UL field-installable accessories
- 3 Pole and 4 Pole designs
- Phase barriers (optional)
- Available as Disconnect Switch (ASD40)

A40 Series Power Circuit Breakers Product Selection Guide

A40/ASD40 Product Selection Guide



1. 4000A is available with vertical terminal connectors only.

Note: An assembled breaker unit must include the ACB breaker Frame and Trip unit. For full list of optional accessories, see Page 13-19.

A40 Series Power Circuit Breakers

Ratings

A40 Power circuit breakers			A40Q	A40R	A40H
Pole			3P/4P		
Mounting Type			Fixed		
Rated current(A)			4000		
Rated Maximum Voltage (V)			254/508/635/847		
Frequency (Hz)			50/60		
Interrupting rating at rated maximum voltage (kA)	254V		65	85	100
	508V		65	85	100
	635V		65	85	100
	847V		65	75	85
Short time withstand current (kA)	254V		65	85	100
	508V		65	85	100
	635V		65	85	100
	847V		65	75	85
Operating time (ms)	Open		≤30		
	Close		≤70		
Life cycle (time)	Mechanical	Without maintenance	10000	10000	10000
		Without maintenance 635V	4000	4000	4000
	Electrical	Without maintenance 847V	3000	3000	3000

A40 Non Automatic Switches			ASD40Q	ASD40R	ASD40H
Pole			3P/4P		
Mounting Type			Fixed		
Rated current(A)			4000		
Rated Maximum Voltage (V)			254/508/635/847		
Frequency (Hz)			50/60		
Interrupting rating at rated maximum voltage (kA)	254V		/	/	/
	508V		/	/	/
	635V		/	/	/
	847V		/	/	/
Short time withstand current (kA)	254V		65	85	100
	508V		65	85	100
	635V		65	85	100
	847V		65	75	85
Operating time (ms)	Open		≤30		
	Close		≤70		
Life cycle (time)	Mechanical	Without maintenance	10000	10000	10000
		Without maintenance 635V	4000	4000	4000
	Electrical	Without maintenance 847V	3000	3000	3000

Overall Dimensions			Height	Width	Depth
Overall dimensions	Fixed	3P	15.43 (392)	17.76 (451)	12.22 (310.5)
		4P	15.43 (392)	22.32 (567)	12.22 (310.5)

Weight			lb (kg)
A40 Power Circuit Breaker	Fixed	3P	183 (83)
		4P	229 (104)
ASD40 Non-Auto Switch	Fixed	3P	176 (80)
		4P	222 (101)

A40 Series Power Circuit Breakers

Trip Unit Overview

A40 Trip Units offer the advanced electronic protection and control functionality required for power distribution and feeder protection in today's increasingly complex power systems. The A40 trip unit's purpose-built electronic circuits and microprocessors measure the breaker's electrical values against pre-set or user-selected parameters for overload, short circuit, current unbalance, over/under voltage, and over/under frequency. When required, a residual ground current transformer provides sensing for ground fault protection.

In addition to the standard LS, LSI and LSIG circuit protection functions, A40 trip units can offer advanced Digital Metering, Arc Flash Reduction Mode and Zone Selective Interlocking. Communications capability is available, ensuring that the trip unit's metered values and status can be transmitted to any required monitoring or control networks.



A40 Trip Units consist of three models, each providing different levels of control, display, diagnostics, and communications options, meeting the requirements of a wide range of end-use applications. Each model can be ordered in one of three protection configurations.

Models:

- Model M – LED display
- Model A – Color LCD display with a 3-phase ammeter
- Model H – Color LCD display with multi-metering and total harmonic distortion waveform capture

Features:

- Microprocessor based true rms sensing
- Discrete rotary trip setting dials
- Cause of trip LEDs
- Unit status LED
- Making / breaking protection (MCR¹)
- Ready-To-Close Indicator

Protection Configurations:

- LI: Long Time-delay Overload, Instantaneous Short Circuit.
- LSI: Long Time-delay Overload, Short Time-delay Short Circuit, Instantaneous Short Circuit
- LSIG: Long Time-delay Overload, Short Time-delay Short Circuit, Instantaneous Short Circuit, Equipment Ground Fault

1. The MCR function immediately trips the circuit breaker (<50ms) when the short circuit current exceeds the pickup current setting during closing operation. This function prevents the circuit breaker from closing when there is short circuit in the system. After the circuit breaker is closed, the MCR is locked and kept inoperative.

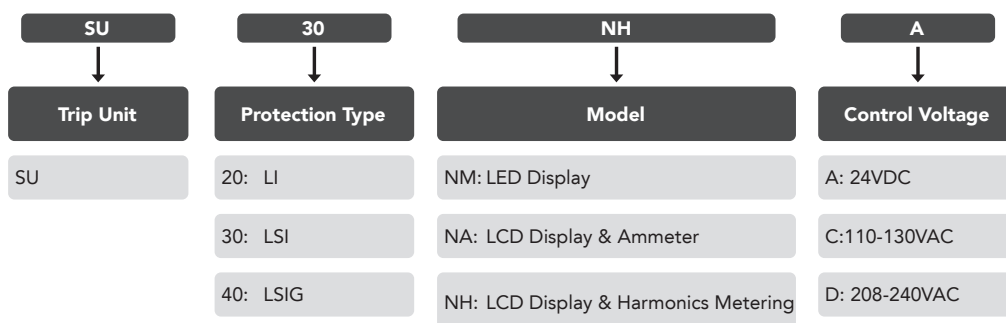
2. The HSISC setting provide backup protection for the circuit breaker. It trips the circuit breaker immediately (<50ms) when the short circuit current exceeds a certain value during normal operation of the circuit breaker. This allows a decrease in the operating time at high short circuit levels possible and it's not affected by the instantaneous protection setting value.

A40 Series Power Circuit Breakers Trip Unit Product Selection Guide

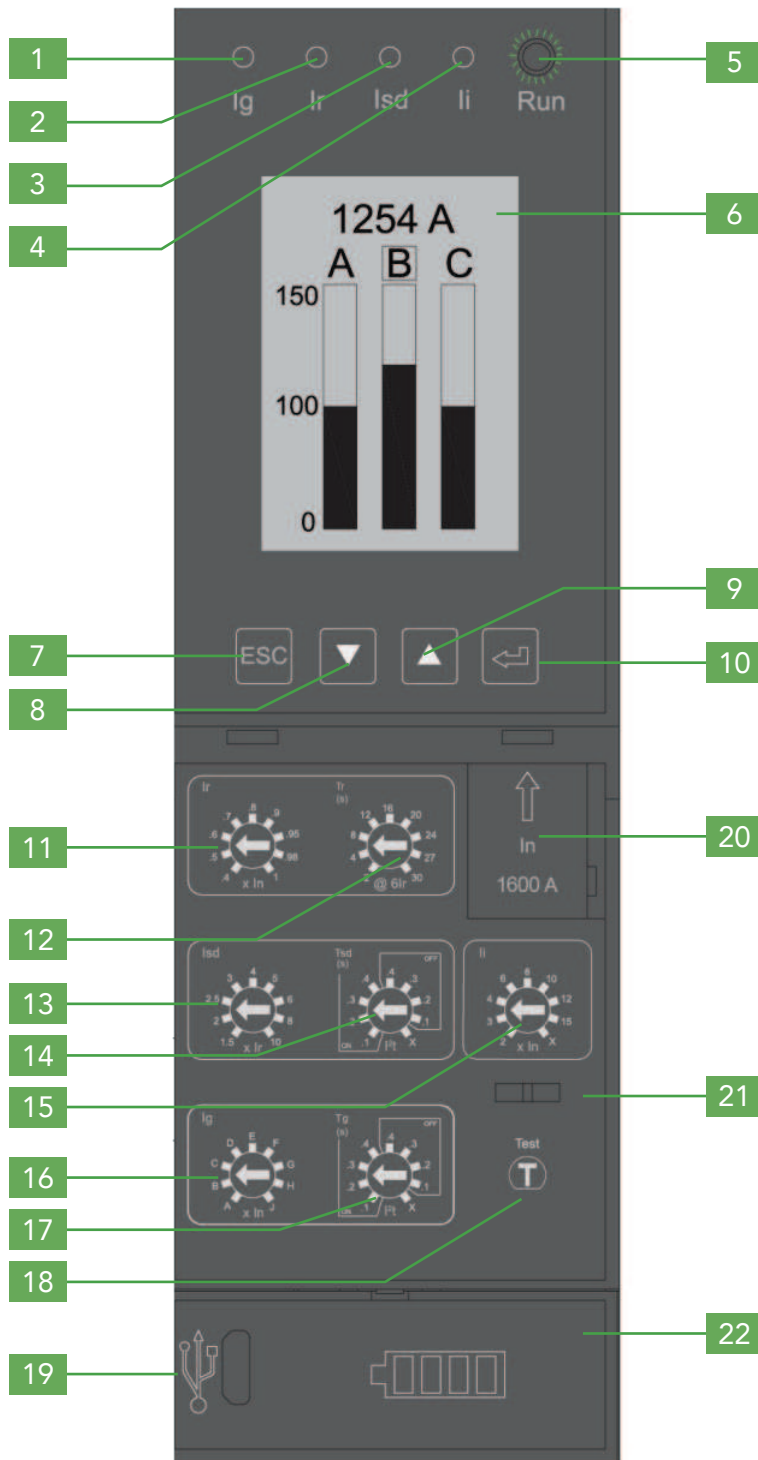
Trip Unit Protection Features			
Type	Protection & Coordination	Setting	Setting Range
Series 2.0 (LI)	Long Delay (L)	Pickup	0.4 to 1.0 x I _n
		Time	2.0s to 30.0s
Series 3.0 (LSI)	Long Delay (L)	Pickup	0.4 to 1.0 x I _n
		Time	2.0s to 30.0s
	Short Delay (S)	Pickup	1.5 to 10.0 x @6I _r
		Time	0.1s to 0.4s I ² t or Definite Time
Instantaneous (I)	Pickup	2.0 to 15.0 x I _n	
Series 4.0 (LSIG)	Long Delay (L)	Long Delay Pickup	0.4 to 1.0 x I _n
		Long Delay Time	2.0s to 30.0s
	Short Delay (S)	Short Delay Pickup	1.5 to 10.0 x @6I _r
		Short Delay Time	0.1s to 0.4s I ² t or Definite Time
			I ² t or Definite Time
	Instantaneous (I)	Instantaneous Pickup	2.0 to 15.0 x I _n
	Ground Fault (G)	Ground Fault Pickup	500A to 1200A
Ground Fault Time		0.1s to 0.4s I ² t or Definite Time	

Trip Unit Models Display Options									
Model	LED Trip Indicator	LCD Display	Alarm Indication	Phase Current Display	Arc Flash Maintenance Mode	Advanced Protection	Advanced Metering	Zone Selective Interlocking	RS485 Communications (Modbus)
M	Y	N	N	N	Y	N	N	N	N
A	Y	Y	Y	Y	Y	N	N	N	N
H	Y	Y	Y	Y	Y	Y	Y	Y	Y

Trip Unit Product Selection Guide



A40 Series Power Circuit Breakers Trip Unit Controls and Indicators Overview



Indicators

- 1 LED cause of trip indicator (Ig)
- 2 LED cause of trip indicator (Ir)
- 3 LED cause of trip indicator (Isd)
- 4 LED cause of trip indicator (li)
- 5 Running LED indicator
- 6 Model A and Model H:
Color LCD display with status indicator
Green = Normal
Yellow = Alarm
Red = Trip
Model M: Digital LED display

Display Controls

- 7 Escape button ESC
- 8 Down selection button
- 9 Up selection button
- 10 Enter button

Trip Setting Interface

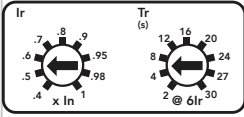
- 11 Long time delay current setting (Ir)
- 12 Long time delay trip time setting (tr)
- 13 Short time delay current setting (Isd)
- 14 Short time delay trip time setting (tsd)
- 15 Instantaneous current setting (li)
- 16 Ground fault current setting (Ig)
- 17 Ground fault trip time setting (Tg)
- 18 Trip test button
- 19 USB port
- 20 Rating plug
- 21 Transparent cover lock hook
- 22 Battery

A40 Series Power Circuit Breakers Trip Unit Selection Guide

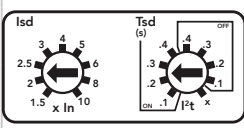
Functions	Model M	Model A	Model H
Protection functions			
Long time	•	•	•
Overload pre-alarm	•	•	•
Short time	•	•	•
Instantaneous	•	•	•
Neutral (4-Pole only)	•	•	•
Ground-fault	•	•	•
Current unbalance	•	•	•
Voltage unbalance			•
Overvoltage protection			•
Undervoltage protection			•
Over-frequency			•
Under-frequency			•
Phase sequence			•
Reverse active power			•
Demand value			•
Total Harmonics Distortion			•
Thermal memory	•	•	•
Measurement functions			
Current	•	•	•
Voltage			•
Frequency			•
Power			•
Power factor			•
Ammeter and kilowatt hours			•
Average Demand			•
Total Harmonics Distortion			•
Maintenance function			
Trip records	•	•	•
Alarm records	•	•	•
Operations records	•	•	•
Contact wear records		•	•
Load monitoring			•
Zone Selective Interlocking			•
Arc reduction	•	•	•
Test Button	•	•	•
Other functions			
RS485 communication function			•
Digital input/output DI/DO			•
Real time clock		•	•
LED display	•		
Color LCD Display		•	•

A40 Series Power Circuit Breakers Trip Unit Settings

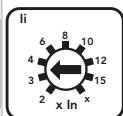
Protection Functions and Settings

Long Delay protection (L)										
Ir - Long Delay Pickup dial setting (multiples of In)	0.40	0.50	0.60	0.70	0.80	0.90	1.0	Tolerance = ±10%		
Tr - Long Delay Time dial setting (s)	2	4	8	12	16	20	24	27	30	
Long Delay Trip Times (s)										
	t @ 1.2 x Ir < 1h									
	t @ 2.0 x Ir	18	36	72	108	114	180	216	243	270
	t @ 6.0 x Ir	2	4	8	12	16	20	24	27	30
 Long time delay inverse time characteristics, $t = \frac{(6Ir)^2}{i^2} \times Tr$										
In = Rating plug value, Tr = Long time delay time, Ir = Long time delay current, i = Short circuit current Tolerance = ±40ms or ±10% whichever is greater										

Short Delay protection (S)

Isd - Short Delay Pickup dial setting (multiples of In)	1.5	2	2.5	3	4	5	6	8	10	Tolerance = ±10%
Tsd - Short Delay Time dial setting (s)	I^2t ON				I^2t OFF				X	Tolerance = ±40ms or ±10% whichever is greater
	0.1	0.2	0.3	0.4	0.4	0.3	0.2	0.1		
Short Delay Trip Times										
	Dial Range	Current Value				Trip Time (s)				
	I^2t OFF	< 0.9 x Isd				No Trip				
		> 1.1 x Isd				0.4	0.3	0.2	0.1	
	I^2t ON	< 0.9 x Isd				No Trip				
≥ 1.1 x Isd to ≥ 10 x Ir				Inverse Time						
		> 10 x Ir				0.1	0.2	0.3	0.4	
X Short Delay protection OFF										

Instantaneous protection (I)

Instantaneous current li pickup setting (multiples of Ir) ²	3	4	6	8	10	12	15	X	Tolerance ±10%
Instantaneous Trip Times									
	Current Value				Trip Time (s)				
	< 0.9 x li				No Trip				
	≥ 1.1 x li				Trip time ≥ 100ms				
	X = Instantaneous protection OFF								

A40 Series Power Circuit Breakers Trip Unit Settings

Protection Functions and Settings

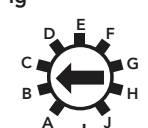
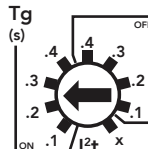
Ground Fault protection (G)

I_g – Ground Fault Pickup dial setting

Dial Position	A	B	C	D	E	F	G	H	J	Tolerance = ±10%
400A < I _n and ≤1200A	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
I _n > 1200	500A	640A	720A	800A	880A	960A	1040A	1120A	1200A	

T _g – Ground Fault Delay Time dial setting (s)	I ² t ON					I ² t OFF			X	Tolerance = ±40ms or ±10% whichever is greater
	0.1	0.2	0.3	0.4	0.4	0.3	0.2	0.1		

Ground Fault Trip Times

I _g	Dial Range	Ground Current Value	Trip Time (s)				I _n = Rating plug value I _g = Ground Fault Pickup T _g = Ground Fault Time Delay i _g = Ground Current
				I ² t OFF(s)	$< 0.9 \times I_g$ $> 1.1 \times I_g$	No Trip	
0.4	0.3	0.2				0.1	
	I ² t ON (s)	$< 0.9 \times I_g$ $\geq 1.1 \times I_g$ or $(i_g < I_n \text{ and } i_g < 1200A)$	No Trip				
			$t = \frac{(1.0I_n)^2 \times T_g}{i_g^2}$ or $t = \frac{(1200)^2 \times T_g}{i_g^2}$				
	X	Ground Fault protection OFF					

Optional Settings – Model H Only

Function	Parameter	Min	Max	Step
Over Voltage	Pickup	100V	1200V	1V
	Pickup Delay	0.2s	60s	0.1s
	Drop Out	0.2I _n	Pickup	1V
	Drop Out Delay	0.2s	60s	0.1s
Under Voltage	Pickup	100V	1200V	1V
	Pickup Delay	0.2s	60s	0.1s
	Drop Out	Pickup	Pickup~1200V	1V
	Drop Out Delay	0.2s	60s	0.1s
Voltage Unbalance	Pickup	2%	30%	1%
	Pickup Delay	0.2s	60s	0.1s
	Drop Out	2%	Pickup	1%
	Drop Out Delay	0.2s	60s	0.1s
Current Unbalance	Pickup	5%	60%	1%
	Pickup Delay	0.1s	40s	0.1s
	Drop Out	5%	Pickup	1%
	Drop Out Delay	10s	200s	1s

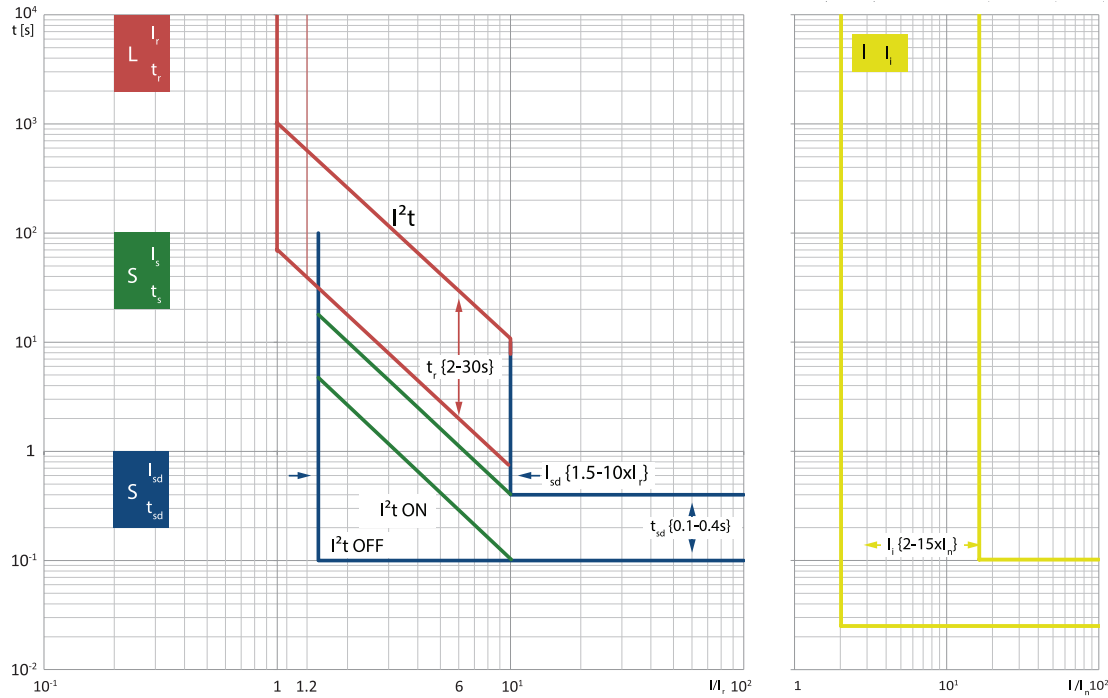
A40 Series Power Circuit Breakers

Trip Unit Settings

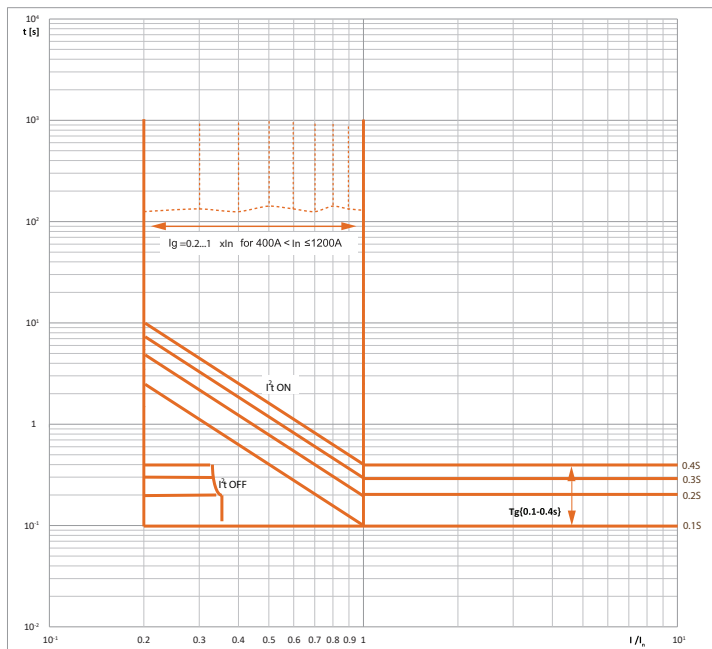
Optional Settings – Model H Only (continued)				
Function	Parameter	Min	Max	Step
Demand Unbalance	Pickup	0.2In	In	1A
	Pickup Delay	15s	1500s	1s
	Drop Out	0.2In	Pickup setting	1A
	Drop Out Delay	15s	3000s	1s
Total Harmonic Distortion (Current)	Pickup	8%	60%	0.5%
	Pickup Delay	1s	120s	1s
	Drop Out	8%	Pickup setting	0.5%
Total Harmonic Distortion (Voltage)	Drop Out Delay	1s	120s	1s
	Pickup	4%	10%	0.1%
	Pickup Delay	1s	120s	1s
Load Shedding Method 1 (Control two branch loads independently)	Drop Out	4%	Pickup setting	0.1%
	Drop Out Delay	1s	120s	1s
	Load 1 Pickup	0.2Ir	1.0Ir	1A
Load Shedding Method 2 (Control one branch load)	Load 1 Pickup Delay	20%Tr	80%Tr	1%Tr
	Load 2 Pickup	0.2Ir	1.0Ir	1A
	Load 2 Pickup Delay	20%Tr	80%Tr	1%Tr
	Pickup	0.2Ir	1.0Ir	1A
Under Frequency	Pickup Delay	20%Tr	80%Tr	1%Tr
	Drop Out	0.2Ir	Pickup setting	1A
	Drop Out Delay	10s	600s	1s
Over Frequency	Pickup	45Hz	65Hz	0.5Hz
	Pickup Delay	0.2s	5s	0.1s
	Drop Out	Start setting	65Hz	0.5Hz
	Drop Out Delay	0.2s	36s	0.1s
Reverse Active Power	Pickup	45Hz	65Hz	0.5Hz
	Pickup Delay	0.2s	5s	0.1s
	Drop Out	45Hz	65Hz	0.5Hz
	Drop Out Delay	0.2s	36s	0.1s
Phase Sequence	Pickup	5KW	500KW	1V
	Pickup Delay	0.2s	20s	0.1s
	Drop Out	5KW	Pickup setting	1V
	Drop Out Delay	1s	36s	0.1s
		Settings: ABC or ACB Instantaneous Trip		

A40 Series Power Circuit Breakers Trip Curves

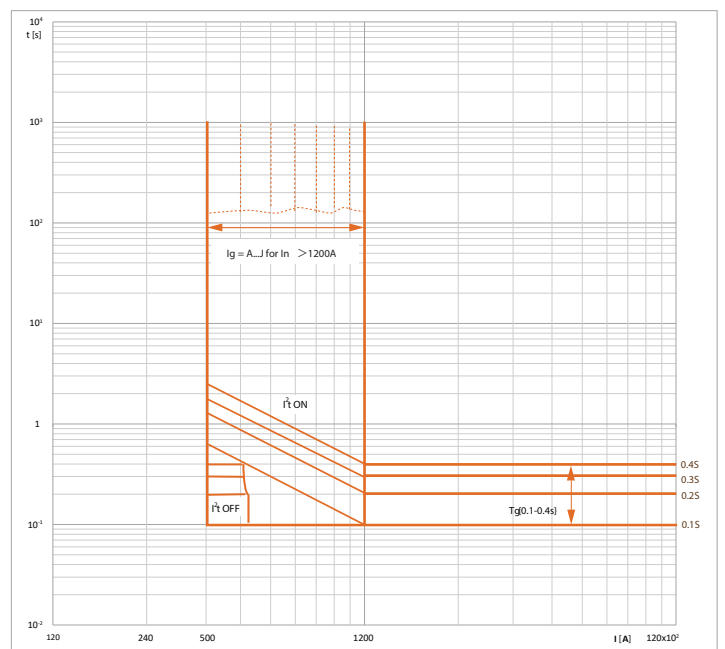
Selective Protection LSI



Ground protection curve



(400A < I_n ≤ 1200A)
Setting range of G protection curve



(I_n > 1200A)
Setting range of G protection curve

A40 Series Power Circuit Breakers Accessories Product Overview



- 1** Shunt trip release
Under-voltage release
Closing release
- 2** Ready to close contact
- 3** Door frame
- 4** Rating plug
- 5** Trip unit
- 6** Auxiliary contact
- 7** OFF position key lock
- 8** Pushbutton lock device
- 9** Motor Operator
- 10** External current transformer
for Neutral
- 11** Mechanical interlocks with cables
- 12** Voltage conversion module
- 13** Energy-limiting maintenance switch

A40 Series Power Circuit Breakers Electrical Accessories Selection Guide

Shunt Release

Opens the breaker instantaneously when the coil is energized by a voltage input.

Shunt Trip Release

Field Installable



Catalog Number	Part Number	Control voltage	Inrush/Continuous Power Consumption (W or VA)	Operational voltage range (70–110%)	Operating time (ms)
SHT12NA	1800272	24~30Vdc	500 / 4.5	17~33Vdc	≤50ms
SHT12NB	1800273	48~60Vac/dc	500 / 4.5	34~66Vac/dc	≤50ms
SHT12NC	1800274	110~130Vac/dc	500 / 4.5	77~143Vac/dc	≤50ms
SHT12ND	1800275	208~240Vac/dc	500 / 4.5	146~264Vac/dc	≤50ms
SHT12NE	1800447	380~415Vac	500 / 4.5	266~457Vac	≤50ms

Closing Release

Remotely closes the circuit breaker when the coil is energized by a voltage input.



Closing Release

Field Installable

Catalog Number	Part Number	Control voltage	Inrush/Continuous Power Consumption (W or VA)	Operational voltage range (70–110%)	Operating time (ms)
XF12NA	1800264	24~30Vdc	500 / 4.5	17~33Vdc	≤70ms
XF12NB	1800265	48~60Vac/dc	500 / 4.5	34~66Vac/dc	≤70ms
XF12NC	1800266	110~130Vac/dc	500 / 4.5	77~143Vac/dc	≤70ms
XF12ND	1800267	208~240Vac/dc	500 / 4.5	146~264Vac/dc	≤70ms
XF12NE	1800445	380~415Vac	500 / 4.5	266~457Vac	≤70ms

Undervoltage Release

Opens the breaker when the supply voltage falls to 30–60% of rated voltage. If the release is not energized to 85% of its supply voltage, the circuit breaker cannot be closed electrically or manually.



Undervoltage Release

Field Installable

Catalog Number	Part Number	Control voltage	Inrush/Continuous Power Consumption (W or VA)	Operational voltage range (85–110%)	Dropout voltage (30–60%)	Operating time (ms)
UVT12NA	1800281	24~30Vdc	500 / 4.5	20~33Vdc	7–14 Vdc	≤70ms
UVT12NB	1800282	48~60Vac/dc	500 / 4.5	41~66Vac/dc	14– 29 Vdc	≤70ms
UVT12NC	1800283	110~130Vac/dc	500 / 4.5	94~143Vac/dc	33~78 Vac/Vdc	≤70ms
UVT12ND	1800284	200~240Vac/dc	500 / 4.5	170~264Vac/dc	60~144 Vac/Vdc	≤70ms
UVT12NE	1800285	380~415Vac	500 / 4.5	323~457Vac	114– 249 Vac	≤70ms

A40 Series Power Circuit Breakers Electrical Accessories Selection Guide

Auxiliary Contact

Monitors ON/OFF status of the circuit breaker or non-automatic switch and provides contacts to electrically indicate its position remotely.

Contact configuration:

44: 4NO and 4NC; 66: 6NO and 6NC;

44C: 4 Form C; 66C: 6 Form C



Auxiliary Contact

Field Installable

Frame Size	Breaker/ Switch	Contacts	Catalog Number	Part Number
A40/ASD40	Fixed	4NO+4NC	AX12NF44	1800290
		6NO+6NC	AX12NF66	1800291
		4NO/NC	AX12NF44C	1800292
		6NO/NC	AX12NF66C	1800293

Voltage (V)		Rated Current (A)
AC	240	5
	480	2
DC	110	0.25
	220	0.25

Voltage Conversion Module (VCM10):

The Voltage conversion module VCM10 is used to pick up the Power Circuit voltage signal and reduce the voltage.

VCM10 is mandatory for voltages higher than 635 Vac, if the type H control unit has been selected and the voltage protection is enabled.



Applicable Trip unit	H type
Applicable software version	0.92 or higher

Product	Part Number	Frame size	Poles	Breaker	Rated current	Voltage Input	Power consumption	Installation
+VCM10	1800488	A40	3P/4P	Fixed	4000A	0~1500VAC	<1W	35MM Din-rail

A40 Series Power Circuit Breakers Electrical Accessories Selection Guide

Motor Operator

Charges the closing spring of mechanism when the circuit breaker is closed. Factory installed only. Mechanical charging handle can be used with or without power supply. Equipped with a limit switch contact which signals that spring is charged.



Motor Operator

Catalog Number	Part Number	Control voltage	Inrush/Continuous Power Consumption (W or VA)	Operational voltage range (85–110%)	Charging time (s)
MD12NA	1800308	24~30Vdc	800 / 200	20~33Vdc	≤4s
MD12NB	1800309	48~60Vdc	1200 / 200	41~66Vdc	≤4s
MD12NC	1800310	110~130Vac/dc	1800 / 180	94~143Vac/dc	≤4s
MD12ND	1800311	208~240Vac/dc	1800 / 180	177~264Vac/dc	≤4s

Field Installable

Ready To Close Contact

This device is intended to be installed in A40 series power circuit breaker depending on customer's requirements. It is used to indicate whether the operating mechanism can be closed.



Ready to Close Contact

Frame Size	Catalog Number	Part Number
A40/ASD40	PF12N	1800313

Field Installable

Energy-limiting maintenance switch

ELM10 is used to mitigate arc hazards and protect personal safety during product maintenance. It should be used in coordination with Power Circuit Breakers with arc reduction function. While the Energy limiting function can be set or turned on in all trip unit models (M, A & H), the ELM10 is programmable only with the Harmonic 'H' version trip unit and the applicable software version should be 0.91 or higher.



Description	ELM10
Ambient temp (°C)	-20°C+70°C
Pollution class	Class 3
Installation category	II
Rated voltage Ue(V)	AC480V/DC24
Rated frequency (Hz)	50/60
Enclosure protection class	IP40
Electrical/mechanical endurance(times)	1500

Frame Size	Catalog Number	Part Number
A40/ASD40	ELM10	1800448

A40 Series Power Circuit Breakers Electrical Accessories Selection Guide

OFF Position Keylock Operated Lock

For A40 Power circuit breaker and ASD40 Non-automatic switch. Blocks Locks the breaker in the OFF position to ensure the breaker can not be closed. One circuit breaker is provided with one lock and one key. Two circuit breakers are provided with two locks and one key. Three circuit breakers are provided with three locks and two keys.



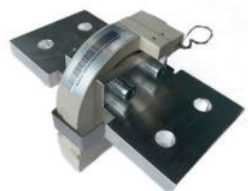
Off Position Keylock

Field Installable

Frame Size	Configuration	Catalog Number	Part Number
A40/ASD40	1 lock 1 key	KLK12N1	1800319
	2 locks 1 key	KLK12N2	1800320
	3 locks 2 keys	KLK12N3	1800321

External current transformer for Neutral

An external transformer for N-pole protection of three-pole circuit breakers in four-wire network, installed on the neutral conductor, the current transformer enables measurement and protection of the neutral conductor.



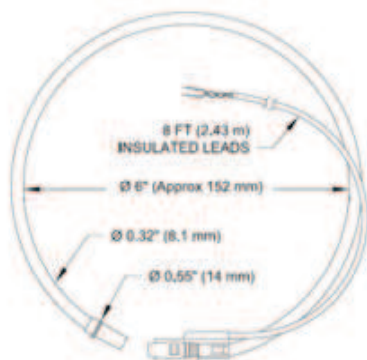
Frame Size	Catalog Number	Part Number
A40/ASD40	+NCT12N	1800378

Note: External neutral protection for three-pole breaker only.

External current transformer for Neutral (RCT-1800)

An external transformer for N-pole protection of three-pole circuit breakers in four-wire network, installed on the neutral conductor, the current transformer enables measurement and protection of the neutral conductor.

(The function is same to NCT12N)



Description	RCT1800
Rated primary current	Up to 15000 Amp
Accuracy	±2.5%
Temperatures	Operating: -15°C to 65°C Storage: -45°C to 80°C
Humidity rating	≤85%
Weight	0.34lbs (0.15Kg)
Length of wire	8FT (2.43m)
Coil diameter	6in (152mm)

Frame size	Poles	Breaker	Catalog Number	Part Number
A32/A40	3P/4P	Fix/Draw out	+RCT-1800-COIL 12	1800564

A40 Series Power Circuit Breakers Mechanical Accessories Selection Guide

Door Frame

IP40 Protection



**IP40 Door Frame
for Fixed Type**

Field Installable

Frame Size	Breaker/Switch	Catalog Number	Part Number
A40/ASD40	Fixed	CDP12N	1800324

Note: This item is included with every new A40 Breaker. Renewal part only.

Pushbutton Locking Cover

Prevents access to the control push buttons of the breaker. Factory installed only.

Lock is not included



**Pushbutton
Locking Cover**

Factory Installable

Frame Size	Catalog Number	Part Number
A40/ASD40	+VBP12N	1800314

Phase Barrier

Provides improved isolation between the terminal connectors on the back of the breaker or cassette.
3 Pole or 4 Pole kit.

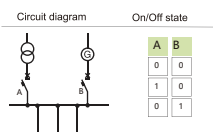
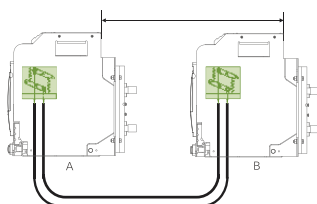
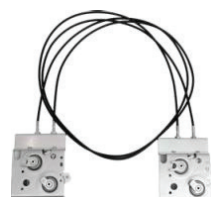


Phase barrier

Frame Size	Poles	Product	Part Number
A40/ASD40	3P: 4pcs	+PHS12N4	1800526
	4P: 6 pcs	+PHS12N6	1800527

Mechanical Interlocking With Cables

Cable-connected mechanical interlock mechanism that is used to prevent two interlocked breakers from closing at the same time. interlocking of 2 or 3 (in preparation) breakers. Cable length for Maximum distance between mounting positions of the interlocks is 78in(2m). Suitable for A40 Power circuit breaker and ASD40 Non-automatic switch 2 interlocks and 2 cables (2 breakers version), 3 interlocks and 6 cables (3 breakers version)



Mechanical Interlocks with Cables

Field Installable

Frame Size	Catalog Number	Part Number
A40/ASD40	IPA12N	1800339

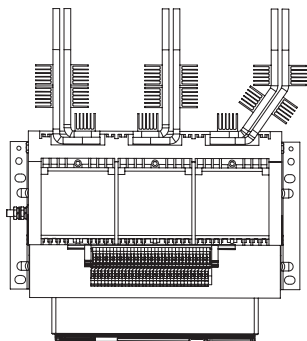
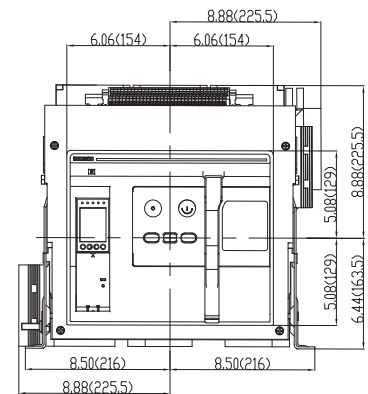
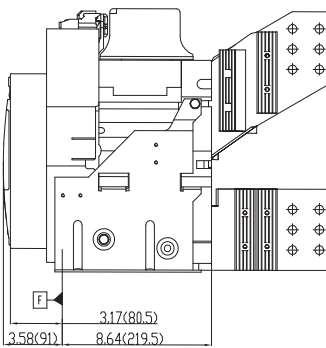
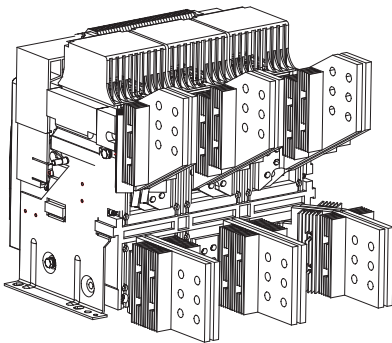
A40 Series Power Circuit Breakers Dimensions

Fixed type

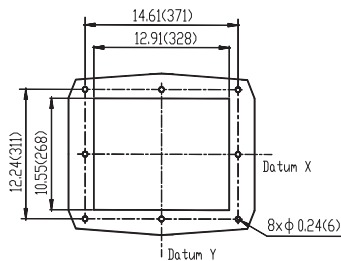
4000A - 3P

Vertical installation

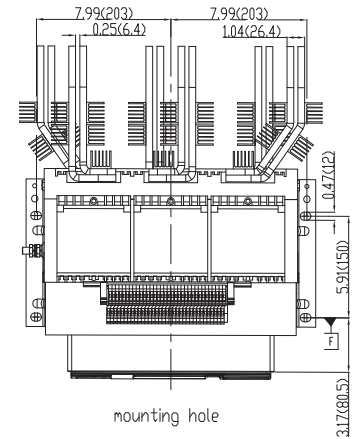
in/mm



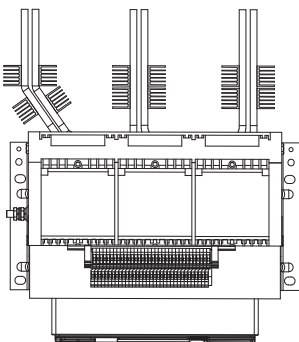
upper busbar



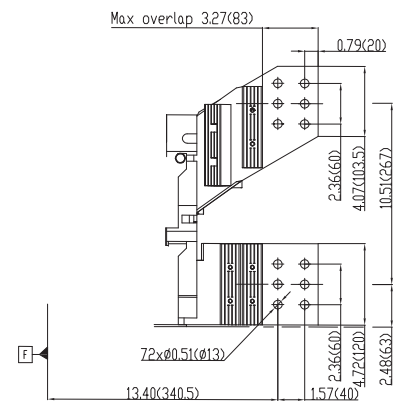
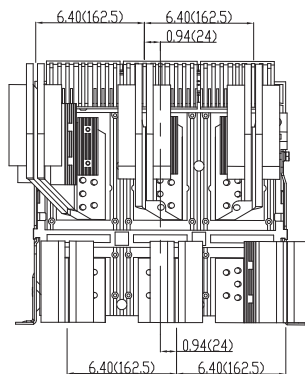
panel perforating size



mounting hole



lower busbar




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