

NEMA Rated Three-Phase Starters

BY EATON

STANDARD FEATURES

- Series ECN - NEMA Rated Three-Phase Starters
- Adjustable Electronic Overloads - C440 Series - Adjustable Class, Bi-metallic, Ambient Compensated Overload Relays are standard.
- NEMA 1, Indoor Rated Enclosures are standard, N3R available as an option
- UL Recognized, CSA Certified, CE Listings
- NEMA Sizes 0 - 5, from 1 - 200 Amps
- Common Control - starters with Matched Power and Coil Voltages of 208, 230, 460 and 575 volt.
- Starters with 115V coils require a separate 115V power feed.
- Phase Loss Protection - selectable On or Off
- Phase Unbalance Protection - selectable On or Off

- Isolated Contacts ,1 N.O. and 1 N.C. are standard
- Current adjustment knob
- $\pm 1\%$ repeat accuracy

OPTIONAL FEATURES

- Run and Overload Pilot Lights available as an option
- H-O-A, Hand-Off-Automatic, switch available as an option.
- Start-Stop Pushbutton available as an option.
- N3R Outdoor Rated Enclosures require additional lead time.
- These options are available as factory installed with additional lead time or as easily installed, field installable kits with wires and instructions included. See Price Book for ordering details.

NOMENCLATURE

Example: ECN0501AAA-R63/B

Characters 1-5	6th	7th	8th	9th	10th	11th - 13th	14th
NEMA Freedom, non-combination, non-reversing starter	NEMA Size	Enclosure	Coil Voltage	Cover Mounted Devices	Disconnect	3 Ph, W/O Ground Fault, Auto/ Manual Reset, Selectable Class 10,20,30	Overload Amp Range
ECN05	0	1	A	A	A	R63/	B
	Size 0	1 = NEMA 1	A = 120 Volt	A = No Options	A = None		B = 1 - 5
	Size 1	2 = NEMA 3R	B = 230 Volt	Others - see below			C = 4 - 20
	Size 2		C = 460 Volt				D = 9 - 45
	Size 3		D = 575 Volt				E = 20 - 100
	Size 4		E = 208 Volt				F = 28 - 140
	Size 5		* P = 12 VDC				G = 60 - 300
			* Q = 24 VDC				
			* R = 48 VDC				

*Special Order

9TH Character Options

Cover Mounted Devices / Options

B	START / STOP PUSHBUTTON - only
C	START / STOP PUSHBUTTON + RED RUN PILOT LIGHT
D	START / STOP PUSHBUTTON + RED RUN & GREEN OFF LIGHTS
H	HAND / OFF / AUTO SELECTOR SWITCH (H - O - A) - only
J	HAND / OFF / AUTO SWITCH + RED RUN PILOT LIGHT
K	HAND / OFF / AUTO SWITCH + RED RUN & GREEN OFF LIGHTS
P	RED RUN PILOT LIGHT- only
Q	GREEN OFF LIGHT - only
R	RED RUN & GREEN OFF LIGHTS - only

NEMA STARTERS WITH C440 SOLID STATE OVERLOADS IN NEMA 1 (INDOOR ONLY) ENCLOSURES

Order Number ¹	Starter Size	Coil Voltage	System Voltage	Overload Range	Maximum Continuous Amperage	Weight	Eaton Number for reference
ECN0501AAA-R63B	Size 0	115 Requires a separate 115V power supply	Any	1-5 A	18	7.1	ECN0501AAA-R63/B
ECN0501AAA-R63C	Size 0			4-20 A			ECN0501AAA-R63/C
ECN0511AAA-R63B	Size 1			1-5 A	27	8	ECN0511AAA-R63/B
ECN0511AAA-R63C	Size 1			4-20 A			ECN0511AAA-R63/C
ECN0511AAA-R63D	Size 1			9-45 A			ECN0511AAA-R63/D
ECN0521AAA-R63D	Size 2			9-45 A	45	8.5	ECN0521AAA-R63/D
ECN0531AAA-R63E	Size 3			20-100 A	90	35	ECN0531AAA-R63/E
ECN0541AAA-R63F	Size 4			28-140 A	135	47	ECN0541AAA-R63/F
ECN0551AAA-R63G	Size 5			60-300 A	270	139	ECN0551AAA-R63/G
ECN0501EAA-R63B	Size 0	208	208	1-5 A	18	7.1	ECN0501EAA-R63/B
ECN0501EAA-R63C	Size 0			4-20 A			ECN0501EAA-R63/C
ECN0511EAA-R63B	Size 1			1-5 A	27	8	ECN0511EAA-R63/B
ECN0511EAA-R63C	Size 1			4-20 A			ECN0511EAA-R63/C
ECN0511EAA-R63D	Size 1			9-45 A			ECN0511EAA-R63/D
ECN0521EAA-R63D	Size 2			9-45 A	45	8.5	ECN0521EAA-R63/D
ECN0531EAA-R63E	Size 3			20-100 A	90	35	ECN0531EAA-R63/E
ECN0541EAA-R63F	Size 4			28-140 A	135	47	ECN0541EAA-R63/F
ECN0551EAA-R63G	Size 5			60-300 A	270	139	ECN0551EAA-R63/G
ECN0501BAA-R63B	Size 0	230	230	1-5 A	18	7.1	ECN0501BAA-R63/B
ECN0501BAA-R63C	Size 0			4-20 A			ECN0501BAA-R63/C
ECN0511BAA-R63B	Size 1			1-5 A	27	8	ECN0511BAA-R63/B
ECN0511BAA-R63C	Size 1			4-20 A			ECN0511BAA-R63/C
ECN0511BAA-R63D	Size 1			9-45 A			ECN0511BAA-R63/D
ECN0521BAA-R63D	Size 2			9-45 A	45	8.5	ECN0521BAA-R63/D
ECN0531BAA-R63E	Size 3			20-100 A	90	35	ECN0531BAA-R63/E
ECN0541BAA-R63F	Size 4			28-140 A	135	47	ECN0541BAA-R63/F
ECN0551BAA-R63G	Size 5			60-300 A	270	139	ECN0551BAA-R63/G
ECN0501CAA-R63B	Size 0	460	460	1-5 A	18	7.1	ECN0501CAA-R63/B
ECN0501CAA-R63C	Size 0			4-20 A			ECN0501CAA-R63/C
ECN0511CAA-R63B	Size 1			1-5 A	27	8	ECN0511CAA-R63/B
ECN0511CAA-R63C	Size 1			4-20 A			ECN0511CAA-R63/C
ECN0511CAA-R63D	Size 1			9-45 A			ECN0511CAA-R63/D
ECN0521CAA-R63D	Size 2			9-45 A	45	8.5	ECN0521CAA-R63/D
ECN0531CAA-R63E	Size 3			20-100 A	90	35	ECN0531CAA-R63/E
ECN0541CAA-R63F	Size 4			28-140 A	135	47	ECN0541CAA-R63/F
ECN0551CAA-R63G	Size 5			60-300 A	270	139	ECN0551CAA-R63/G
ECN0501DAA-R63B	Size 0	575	575	1-5 A	18	7.1	ECN0501DAA-R63/B
ECN0501DAA-R63C	Size 0			4-20 A			ECN0501DAA-R63/C
ECN0511DAA-R63B	Size 1			1-5 A	27	8	ECN0511DAA-R63/B
ECN0511DAA-R63C	Size 1			4-20 A			ECN0511DAA-R63/C
ECN0511DAA-R63D	Size 1			9-45 A			ECN0511DAA-R63/D
ECN0521DAA-R63D	Size 2			9-45 A	45	8.5	ECN0521DAA-R63/D
ECN0531DAA-R63E	Size 3			20-100 A	90	35	ECN0531DAA-R63/E
ECN0541DAA-R63F	Size 4			28-140 A	135	47	ECN0541DAA-R63/F
ECN0551DAA-R63G	Size 5			60-300 A	270	139	ECN0551DAA-R63/G

¹ The / in R63/B will not work in our price database so it was eliminated.

NEMA 3R ENCLOSURE MODEL NUMBERS

Order Number ¹	Starter Size	Coil Voltage	System Voltage	Overload Range	Maximum Continuous Amperage	Weight	Eaton Number for reference
ECN0502AAA-R63B	Size 0	115 Requires a separate 115V power supply	Any	1-5 A	18	7.1	ECN0502AAA-R63/B
ECN0502AAA-R63C	Size 0			4-20 A			ECN0502AAA-R63/C
ECN0512AAA-R63B	Size 1			1-5 A	27	8	ECN0512AAA-R63/B
ECN0512AAA-R63C	Size 1			4-20 A			ECN0512AAA-R63/C
ECN0512AAA-R63D	Size 1			9-45 A			ECN0512AAA-R63/D
ECN0522AAA-R63D	Size 2			9-45 A	45	8.5	ECN0522AAA-R63/D
ECN0532AAA-R63E	Size 3			20-100 A	90	35	ECN0532AAA-R63/E
ECN0542AAA-R63F	Size 4			28-140 A	135	47	ECN0542AAA-R63/F
ECN0552AAA-R63G	Size 5			60-300 A	270	139	ECN0552AAA-R63/G
ECN0502EAA-R63B	Size 0	208	208	1-5 A	18	7.1	ECN0502EAA-R63/B
ECN0502EAA-R63C	Size 0			4-20 A			ECN0502EAA-R63/C
ECN0512EAA-R63B	Size 1			1-5 A	27	8	ECN0512EAA-R63/B
ECN0512EAA-R63C	Size 1			4-20 A			ECN0512EAA-R63/C
ECN0512EAA-R63D	Size 1			9-45 A			ECN0512EAA-R63/D
ECN0522EAA-R63D	Size 2			9-45 A	45	8.5	ECN0522EAA-R63/D
ECN0532EAA-R63E	Size 3			20-100 A	90	35	ECN0532EAA-R63/E
ECN0542EAA-R63F	Size 4			28-140 A	135	47	ECN0542EAA-R63/F
ECN0552EAA-R63G	Size 5			60-300 A	270	139	ECN0552EAA-R63/G
ECN0502BAA-R63B	Size 0	230	230	1-5 A	18	7.1	ECN0502BAA-R63/B
ECN0502BAA-R63C	Size 0			4-20 A			ECN0502BAA-R63/C
ECN0512BAA-R63B	Size 1			1-5 A	27	8	ECN0512BAA-R63/B
ECN0512BAA-R63C	Size 1			4-20 A			ECN0512BAA-R63/C
ECN0512BAA-R63D	Size 1			9-45 A			ECN0512BAA-R63/D
ECN0522BAA-R63D	Size 2			9-45 A	45	8.5	ECN0522BAA-R63/D
ECN0532BAA-R63E	Size 3			20-100 A	90	35	ECN0532BAA-R63/E
ECN0542BAA-R63F	Size 4			28-140 A	135	47	ECN0542BAA-R63/F
ECN0552BAA-R63G	Size 5			60-300 A	270	139	ECN0552BAA-R63/G
ECN0502CAA-R63B	Size 0	460	460	1-5 A	18	7.1	ECN0502CAA-R63/B
ECN0502CAA-R63C	Size 0			4-20 A			ECN0502CAA-R63/C
ECN0512CAA-R63B	Size 1			1-5 A	27	8	ECN0512CAA-R63/B
ECN0512CAA-R63C	Size 1			4-20 A			ECN0512CAA-R63/C
ECN0512CAA-R63D	Size 1			9-45 A			ECN0512CAA-R63/D
ECN0522CAA-R63D	Size 2			9-45 A	45	8.5	ECN0522CAA-R63/D
ECN0532CAA-R63E	Size 3			20-100 A	90	35	ECN0532CAA-R63/E
ECN0542CAA-R63F	Size 4			28-140 A	135	47	ECN0542CAA-R63/F
ECN0552CAA-R63G	Size 5			60-300 A	270	139	ECN0552CAA-R63/G
ECN0502DAA-R63B	Size 0	575	575	1-5 A	18	7.1	ECN0502DAA-R63/B
ECN0502DAA-R63C	Size 0			4-20 A			ECN0502DAA-R63/C
ECN0512DAA-R63B	Size 1			1-5 A	27	8	ECN0512DAA-R63/B
ECN0512DAA-R63C	Size 1			4-20 A			ECN0512DAA-R63/C
ECN0512DAA-R63D	Size 1			9-45 A			ECN0512DAA-R63/D
ECN0522DAA-R63D	Size 2			9-45 A	45	8.5	ECN0522DAA-R63/D
ECN0532DAA-R63E	Size 3			20-100 A	90	35	ECN0532DAA-R63/E
ECN0542DAA-R63F	Size 4			28-140 A	135	47	ECN0542DAA-R63/F
ECN0552DAA-R63G	Size 5			60-300 A	270	139	ECN0552DAA-R63/G

¹ The / in R63/B will not work in our price database so it was eliminated.

NEMA STARTER SIZING TABLE 1

Maximum HP	Motor & Starter Voltage			
	208	230	460	575
	NEMA Starter Size			
0.5	0	0	0	-
0.75	0	0	0	-
1	0	0	0	-
1.5	0	0	0	0
2	0	0	0	0
3	0	0	0	0
5	1	1	0	0
7.5	2	1	1	1
10	2	2	1	1
15	3	3	2	2
20	3	3	2	2
25	4	3	2	2
30	4	4	3	3
40	-	-	3	3
50	-	-	3	3
60	-	-	4	4
75	-	-	4	4
100	-	-	5	5
125	-	-	5	5
150	-	-	5	5
175	-	-	5	5
200	-	-	5	5

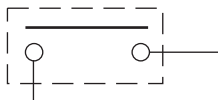
NEMA STARTER SIZING TABLE 2

NEMA Starter Size	Motor & Starter Voltage			
	208	230	460	575
	Maximum HP			
0	3	3	5	5
1	5	7.5	10	10
2	10	10	25	25
3	20	25	50	50
4	30	30	75	75
5	-	-	200	200

WIRING DIAGRAMS

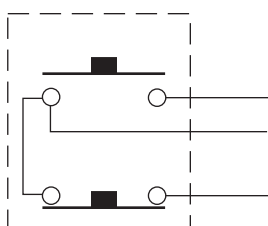
REMOTE PILOT DEVICES

2-WIRE CONTROL

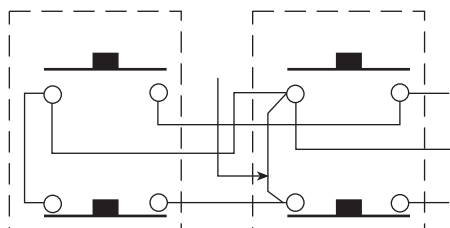


Not for use with auto reset on relays.

3-WIRE CONTROL



When more than one pushbutton station is used, omit Connector "A" and connect per sketch below.



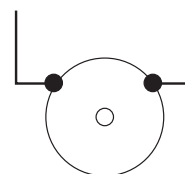
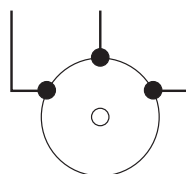
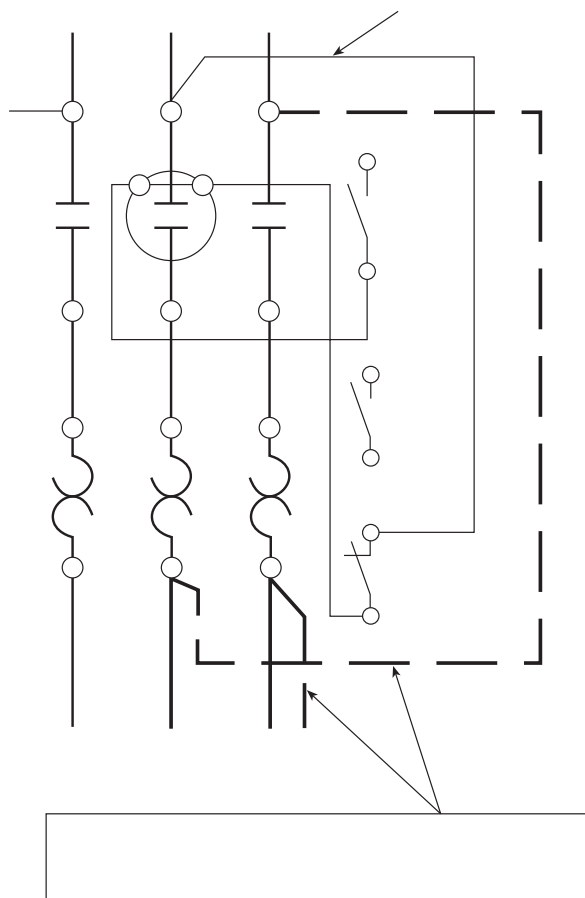
SEPARATE CONTROL

Remove Wire "C" if supplied and connect separate control lines to the No. 1 Terminal on the remote pilot device and to the No. 96 Terminal on the overload relay.

Connections for Freedom 45, 65 & 90MM enclosed starters – AC Coil

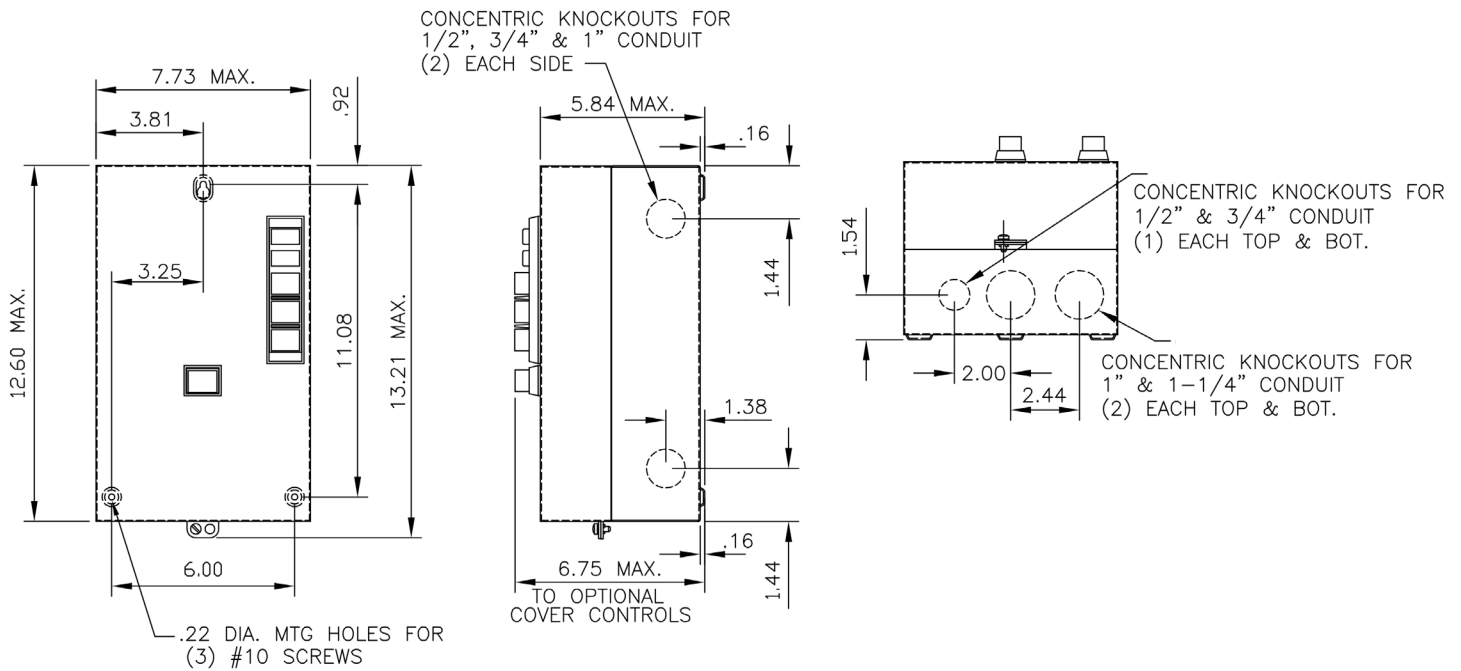
CONNECTIONS FOR NON-REVERSING STARTER

FIGURE 1

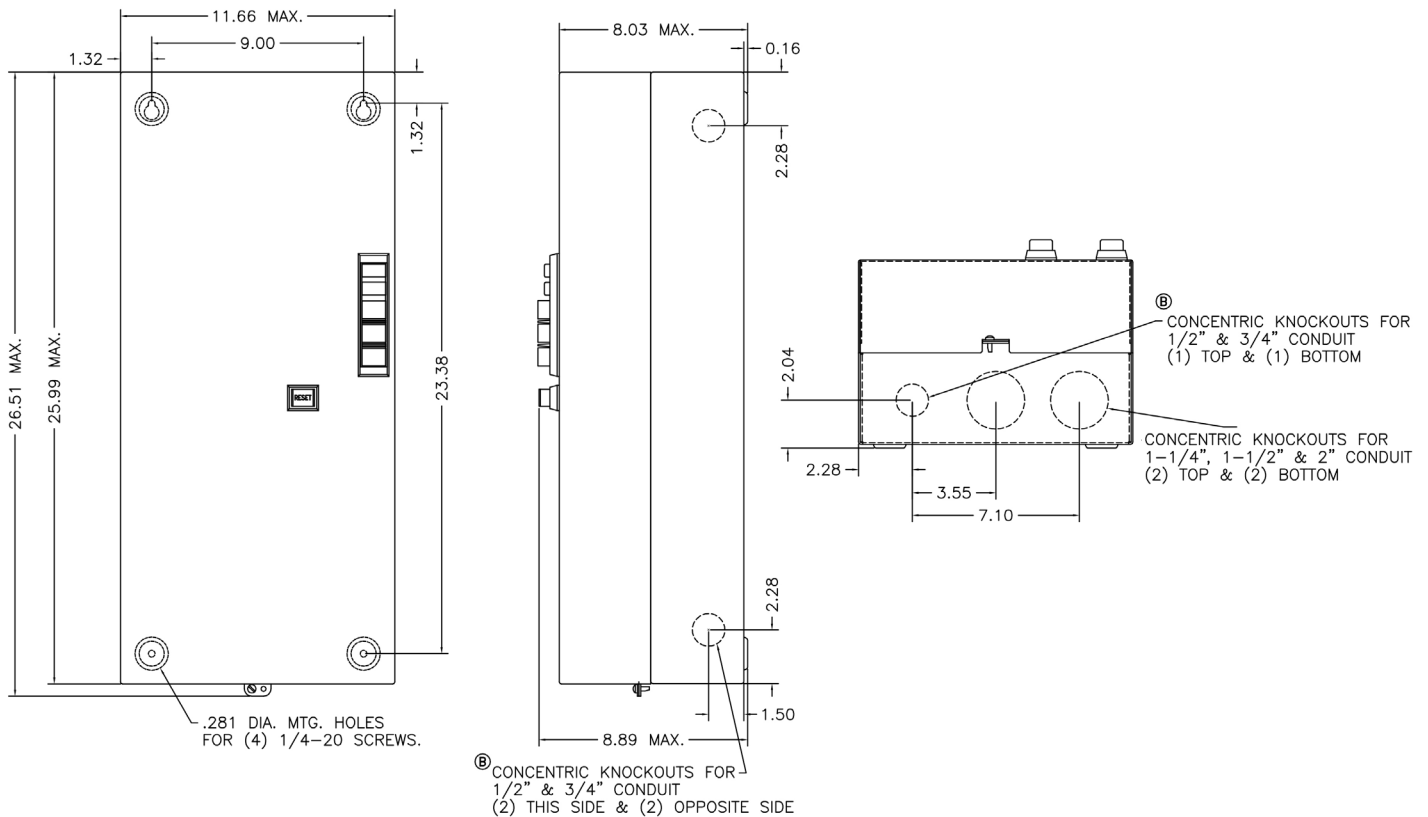


DIMENSION DRAWINGS - NEMA 1

SIZE 0, 1, 2



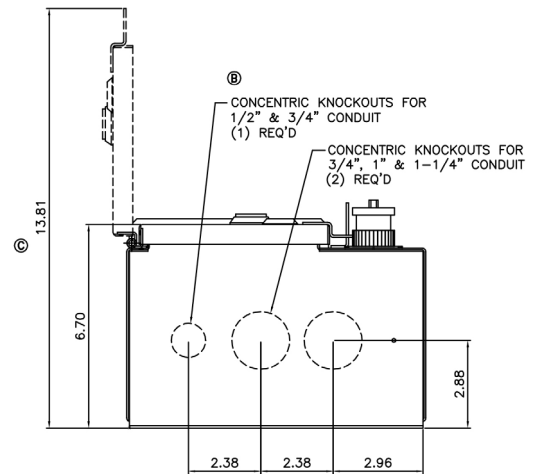
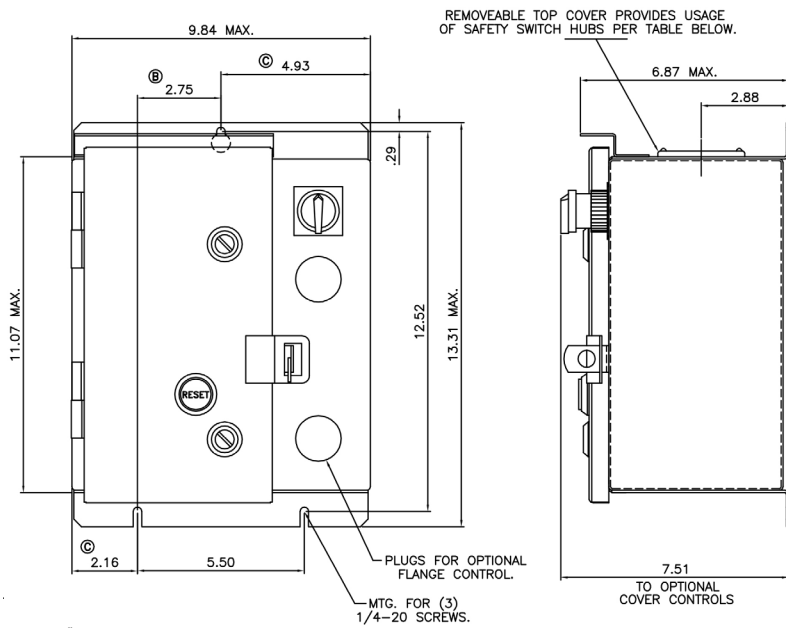
SIZE 3, 4



SIZE 5

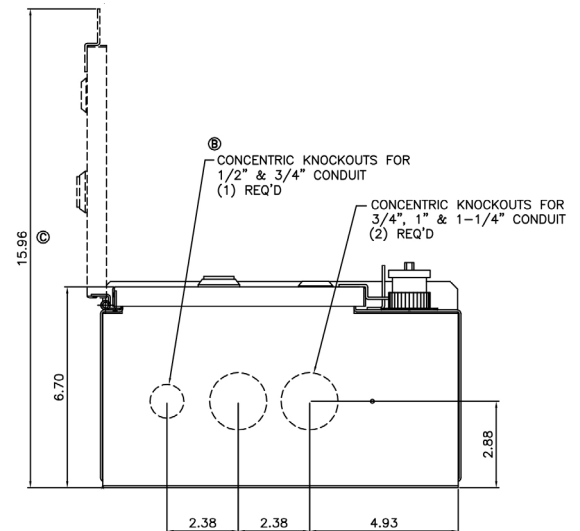
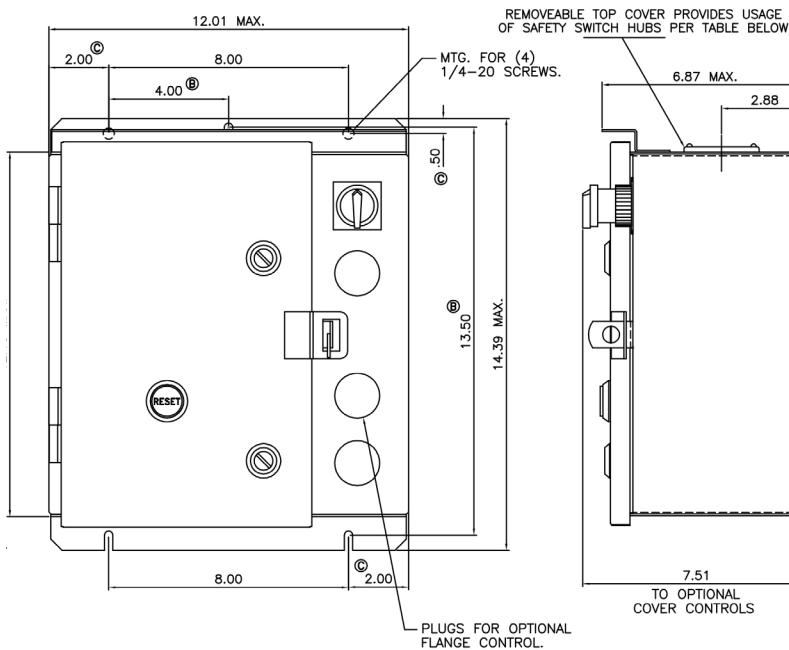
DIMENSION DRAWINGS - NEMA 3R

SIZE 0, 1



CONDUIT SIZE	CAT.No.
3/4"	DS075H1
1"	DS100H1
1-1/4"	DS125H1

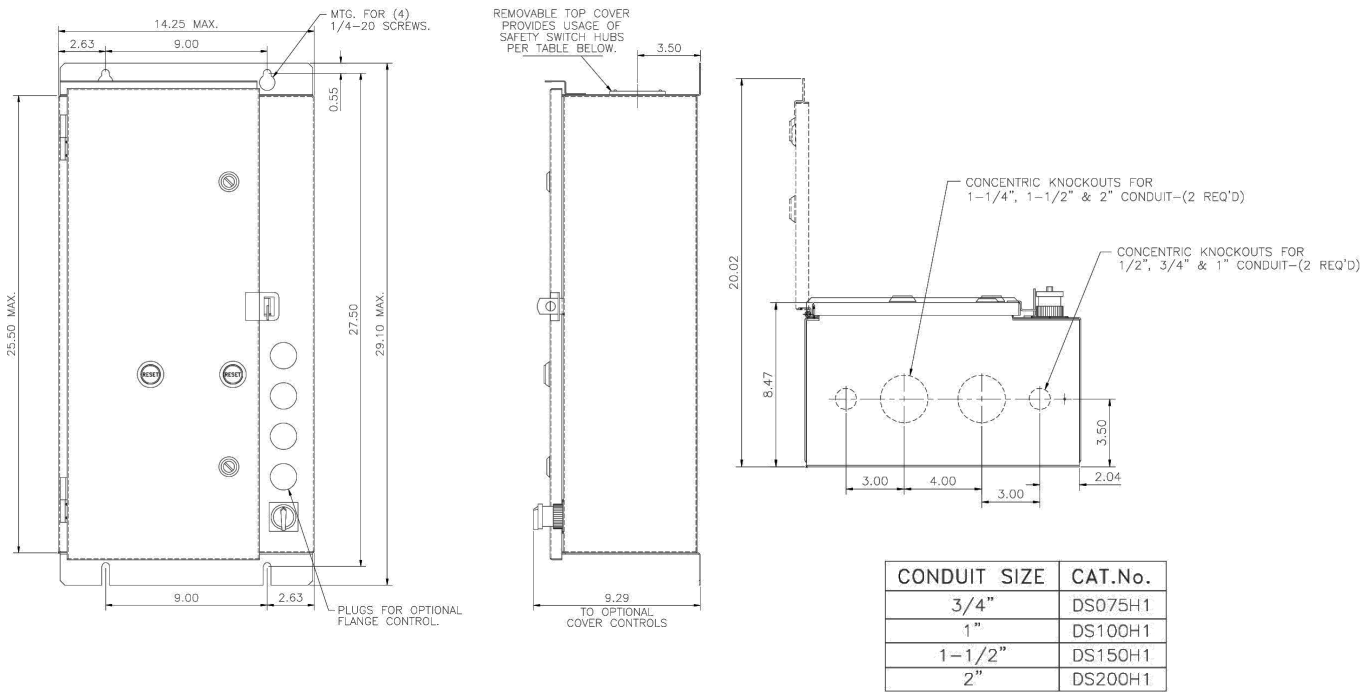
SIZE 2



CONDUIT SIZE	CAT.No.
3/4"	DS075H1
1"	DS100H1
1-1/4"	DS125H1

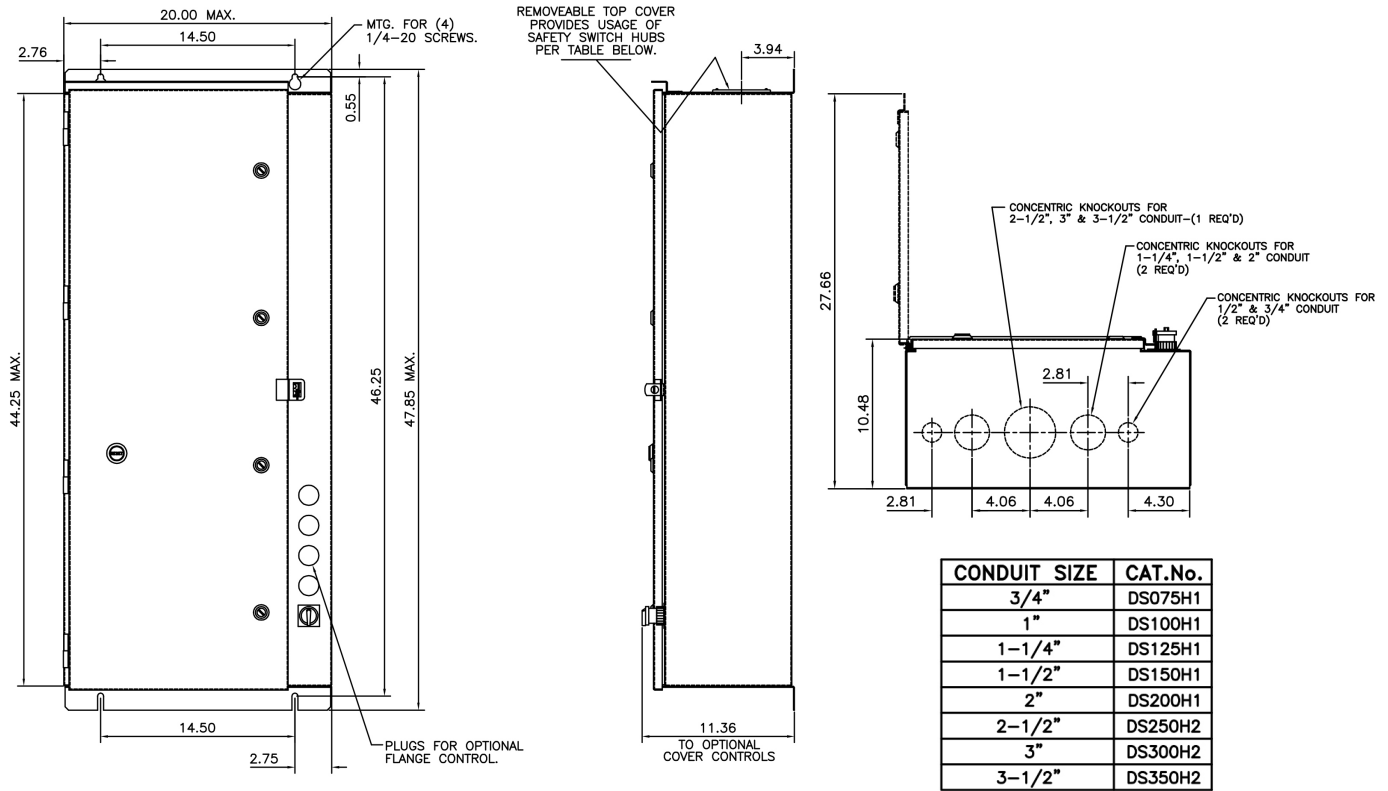
DIMENSION DRAWINGS - NEMA 3R

SIZE 3, 4



DIMENSION DRAWINGS - NEMA 3R

SIZE 5



Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com



Xylem Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13148
Phone: (866) 325-4210
Fax: (888) 322-5877
www.xylem.com/goulds

Xylem is a registered trademark of Xylem Inc. or one of its subsidiaries. Goulds is a registered trademark of ITT Manufacturing Enterprises LLC and is used under license. All other trademarks or registered trademarks are property of their respective owners.
© 2023 Xylem Inc. BCPNEMAST R1 March 2023