



ISOVAC 800
PART # D-14000

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AMERICAN ELECTRIC EQUIPMENT, INC.

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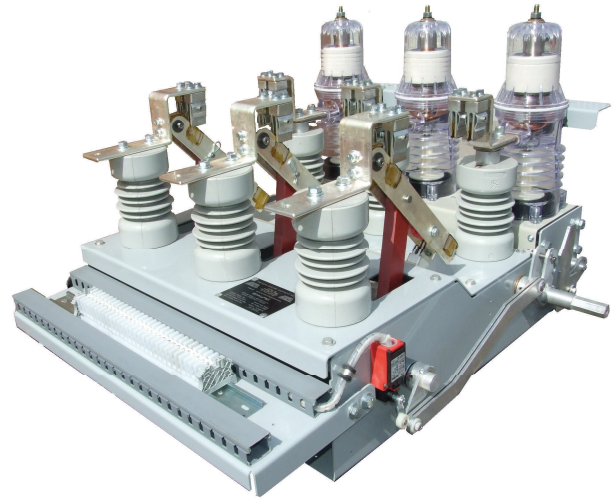
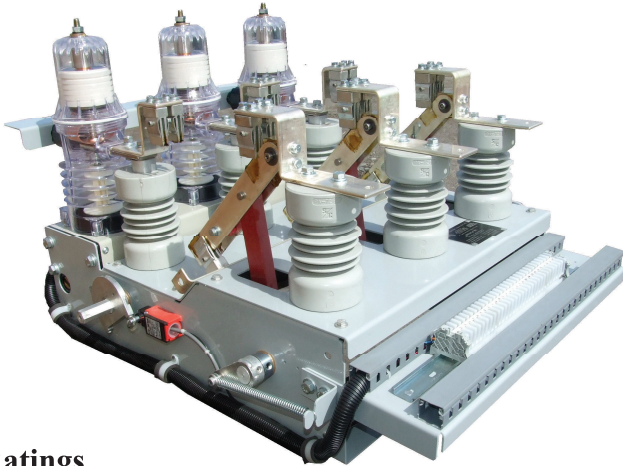
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ISOVAC 800

MAGNETIC VACUUM CIRCUIT BREAKER WITH GROUNDING DISCONNECT SWITCH

Document A-14400 MARCH 20, 2015



Ratings

- Rated voltage 15kv
- Rated continuous current 800 amps
- Rated short-time withstand current 20 ka
- Rated peak withstand current 52 ka

Standard Features

- The ISM (Indoor Switching Module) or vacuum circuit breaker.
- The CM (Control Module) for controlling the ISM and monitoring both modules.
- The CM_16 is ready to trip in 0.1ms on power up.
- Contact showing CM is ready.
- Contact showing CM or ISM malfunction.
- Grounding visible disconnect switch.
- The operating handle can be placed on the left or right side without the need of any adapters.
- 5 - N.O. auxiliary contacts.
- 4 - N.C. auxiliary contacts.
- Early break auxiliary contact.
- Form C auxiliary contact actuated when the blades are open and grounded.
- Ability to open and close the vacuum circuit breaker when the visible disconnect blades are open and grounded.
- Mechanically and electrically interlocked to prevent operation of the disconnect switch with a closed vacuum circuit breaker.
- CM will still electrically trip the ISM for 30 seconds after a control power failure.
- Adapter kit available for multiple connections on the ISM input. Part Number: A-14402

ISM / Vacuum Circuit Breaker Description

Closing

In the open position the contacts are kept in this state by the force of the opening springs. To close the contacts, the coils of the magnetic actuators become excited by a current impulse of the close capacitors of the CM. As a result the contacts close. At the same time the opening springs are compressed. In the close position the contacts are held closed by means of the magnetic force. The ISM maintains this position without mechanical latching in the event of a failure of the auxiliary power supply.

Opening

To open the contacts a current impulse in the reverse polarity derived from the opening capacitors of the CM is injected in the coils of the magnetic actuators releasing the magnetic holding force. The compressed opening springs and contact pressure springs open the contacts.

Manual-Emergency-Tripping

The ISM can also be manually opened. When the synchronizing shaft is rotated, a force exceeding the magnetic attraction forces of the ring magnet is applied to the armature, which subsequently starts to move. As the air gap increases, the opening springs and the contact pressure springs overcome the magnetic holding force, and the vacuum interrupter opens.

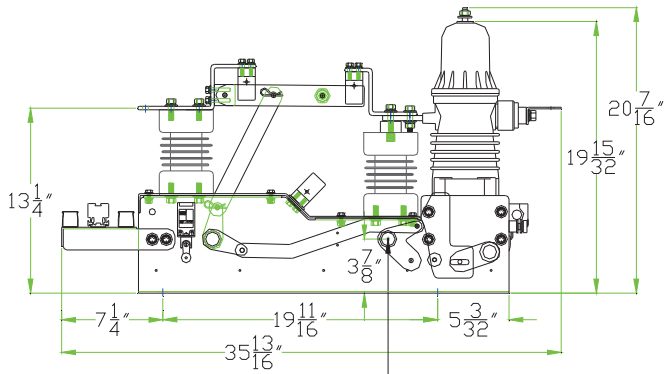
Manual Closing

The ISM can only be closed electrically via the CM. In the case of a failure of auxiliary power supply the contacts can be closed using an alternative auxiliary power supply such as a battery. Mechanical closing is not possible and leads to the destruction of the ISM.

Visible Disconnect Description

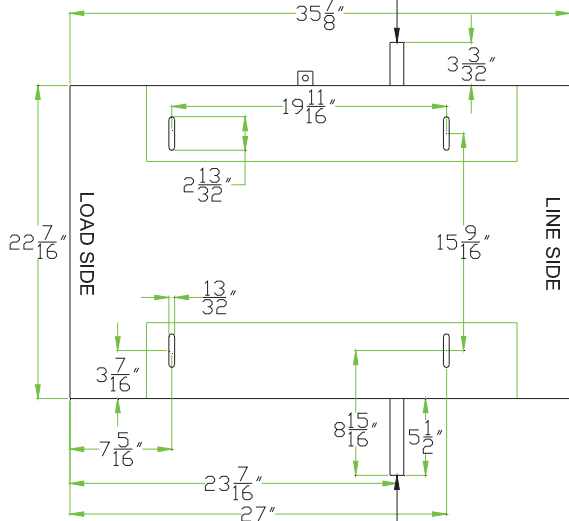
The visible disconnect is operated by a switch handle that rotates 100 degrees. This switch handle is mechanically connected and arranged to trip the ISM before the moving blades part from the stationary blades. When in the open position the blades are then grounded and the ISM can once again be operated for regular testing of the control circuit components without passing power to the grounded output terminals. A form C contact is provided to electrically show the grounded position.

Overall Dimensions and Mounting Dimensions

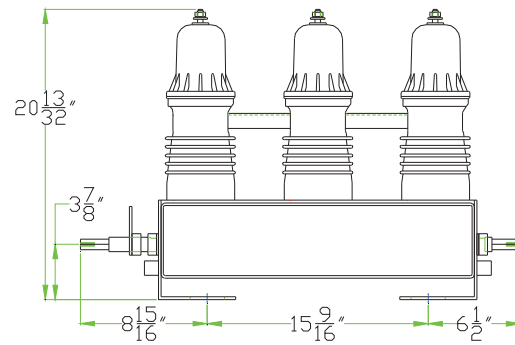


RIGHT SIDE OPERATING SHAFT

LEFT SIDE OPERATING SHAFT



RIGHT SIDE OPERATING SHAFT



ORDERING INFORMATION

Complete ISOVAC with control module: D-14000-1
 Complete ISOVAC no control module: D-14000
 Indoor Switching Module only: A-14215
 Control Module only: A-14216-2

See parts list for all other parts

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Right Side View

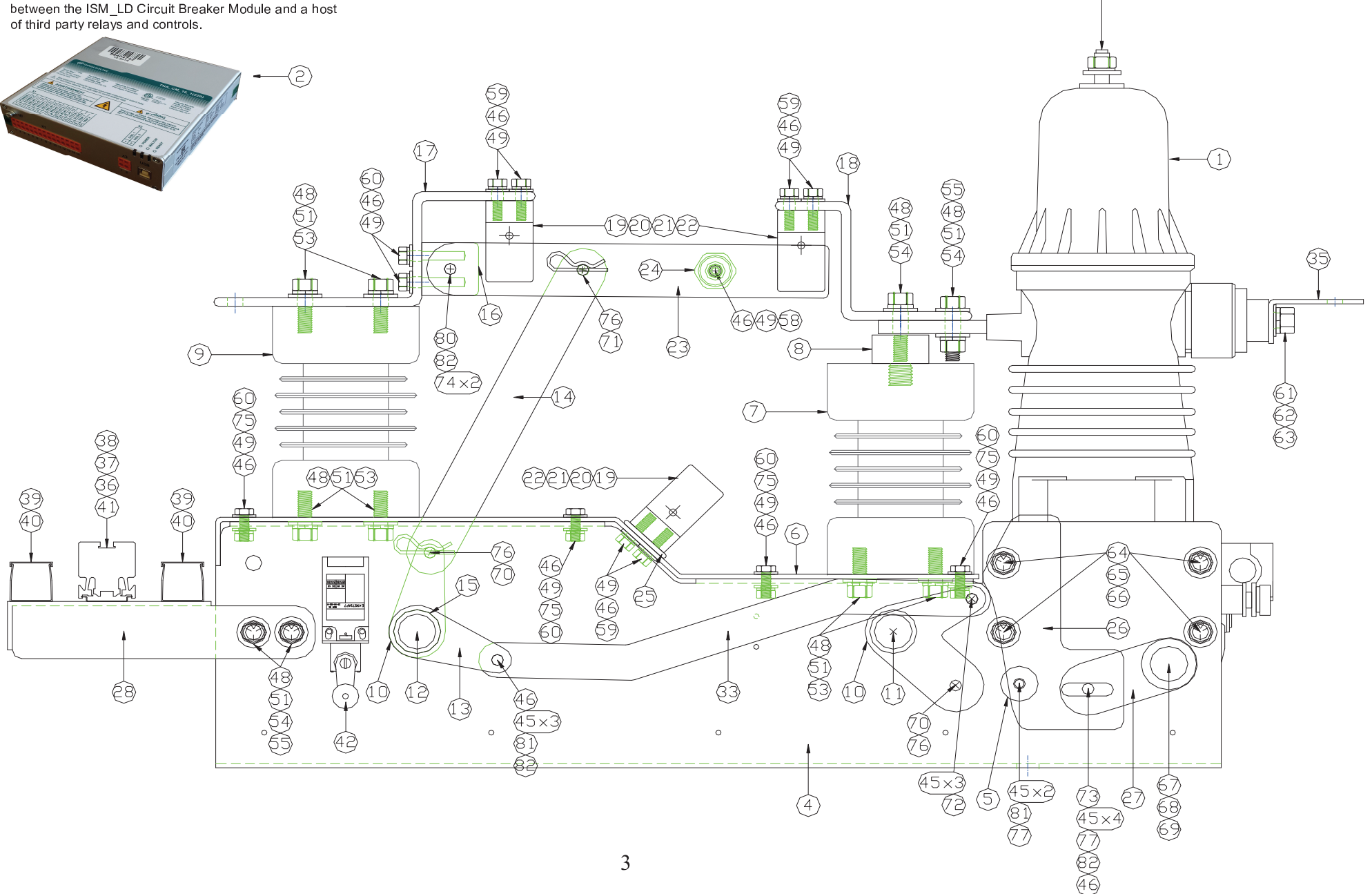
CM_16 Control Module

② The CM_16 Control Module serves as the interface between the ISM_LD Circuit Breaker Module and a host of third party relays and controls.

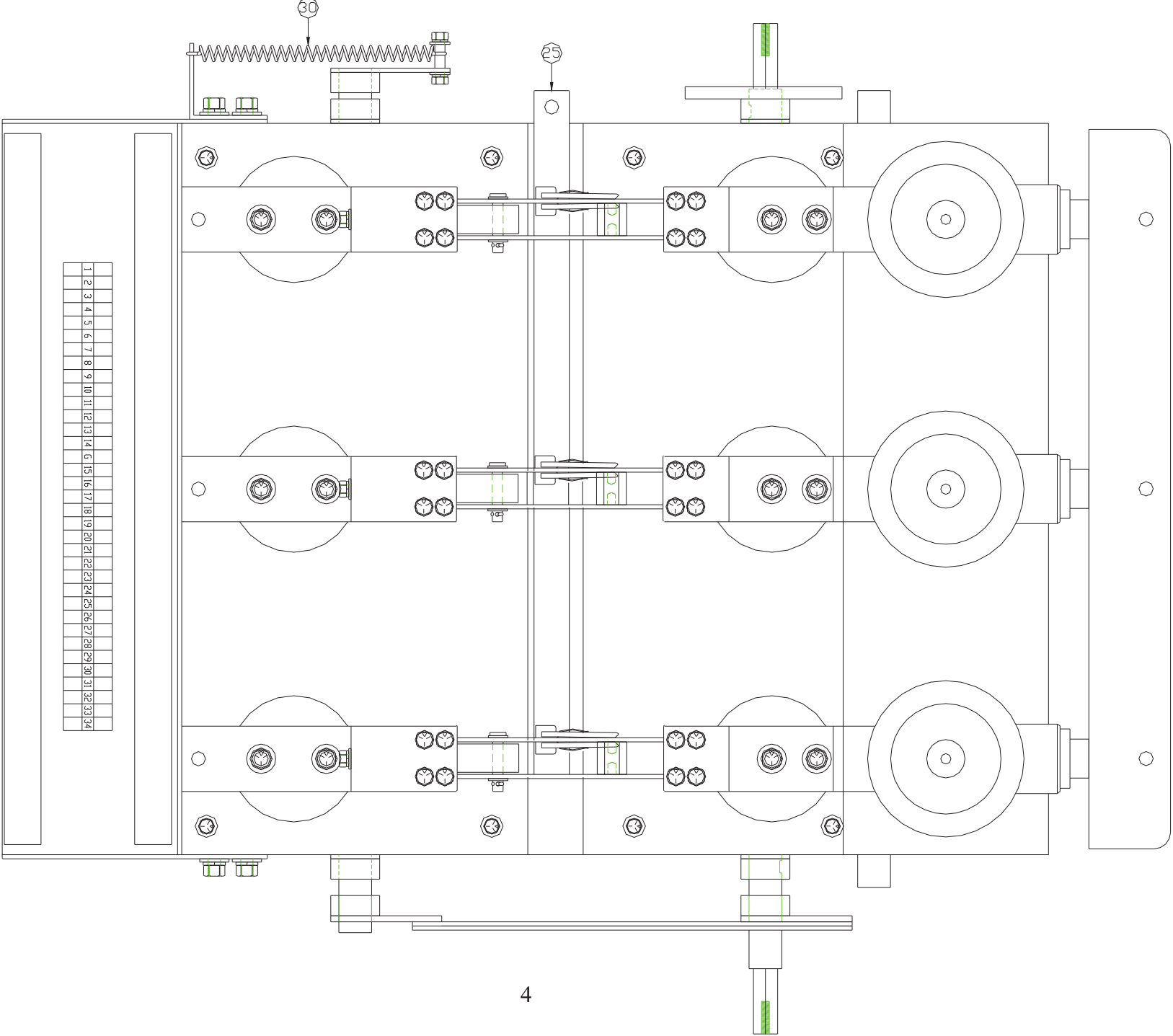


① ISM_LD Vacuum Circuit Breaker

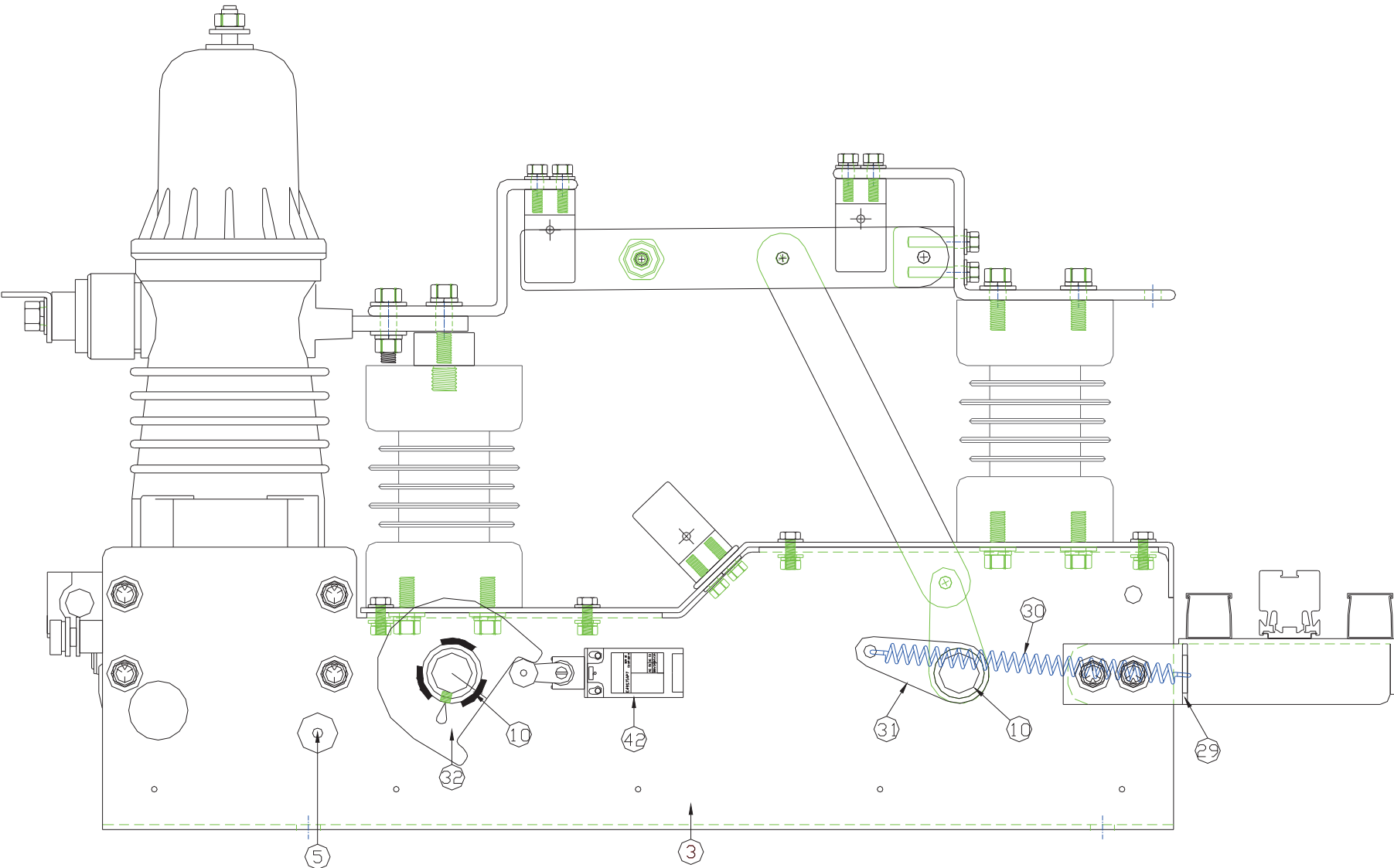
Indoor Switching Module 800 amp type LD



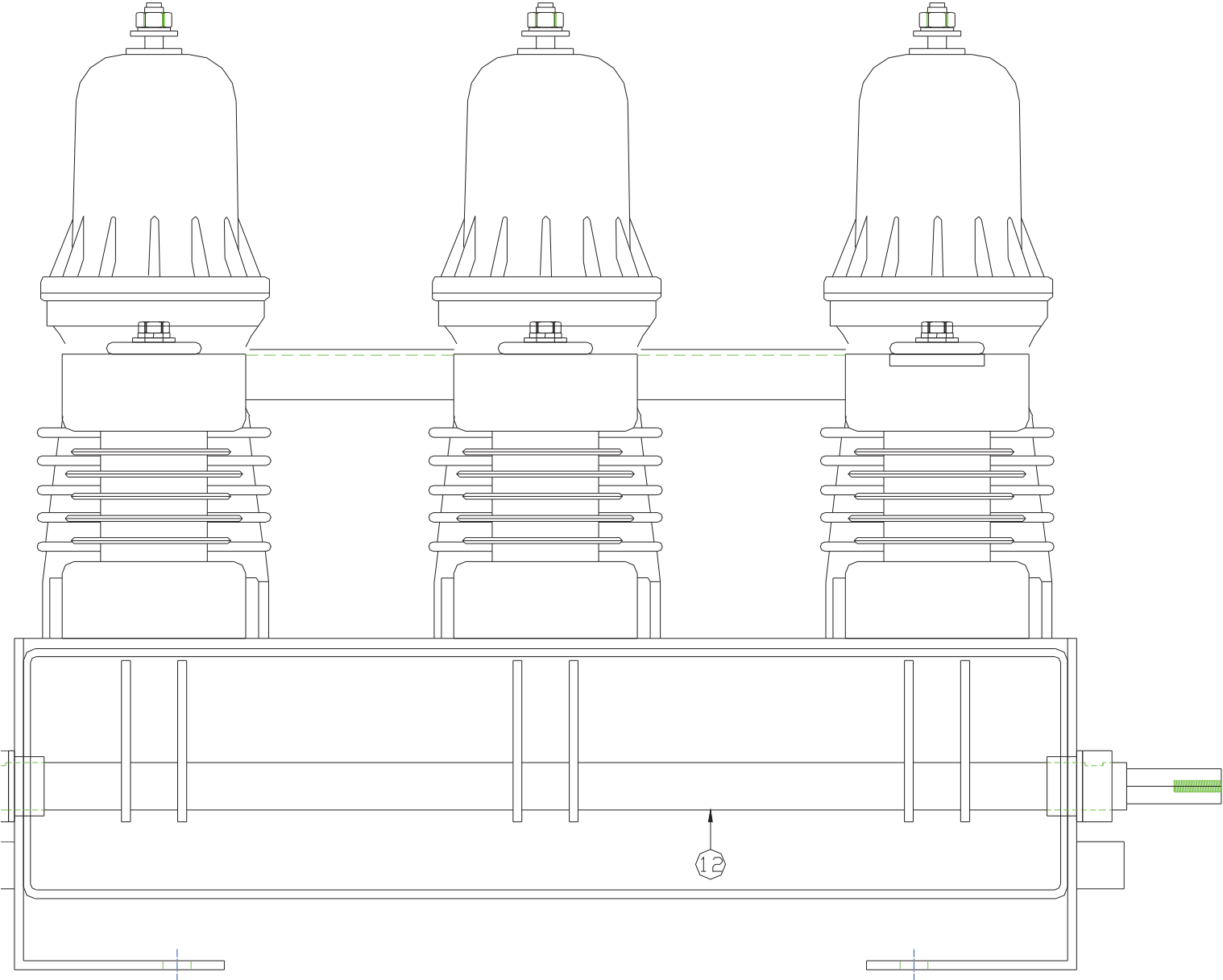
Top View



Left Side View



End View



ITEM #	Quantity Needed	UOM	Part Number	Description
			D-14000	Complete AEEI VCB Assembly with Grounding Switch No Control Module
			D-14000-1	Complete AEEI VCB Assembly with Grounding Switch and Control Module
1	1	ea	A-14215	Tavrida ISM_LD Circuit Breaker
2	1	ea	A-14216-2	Tavrida CM_16 Control Module
3	1	ea	A-13920-L	AEEI Vacuum Circuit Breaker Left Side Base
4	1	ea	A-13920-R	AEEI Vacuum Circuit Breaker Right Side Base
5	2	ea	A-14098	1" Weld On Ground Pad Threaded 1/4"-20 (Welded to A-13920L and R)
6	1	ea	A-13921	AEEI Vacuum Circuit Breaker Insulator Mount
7	3	ea	A-9716-2	Line Side Insulator with 1 hole 5/8" and 2 Hole 3/8" Top and 4 Hole 3/8" Bottom
8	3	ea	A-14012	Line Side Insulator Spacer
9	3	ea	A-9716-1	Load Side Insulator with 2 Hole 3/8" Top and 4 Hole 3/8" Bottom
10	4	ea	A-14013	Bronze Flanged Sleeve Bearing
11	1	ea	A-14314	Hexagonal Shaft Assembly
	1	ea	A-13970	Hexagonal Shaft
	1	ea	A-14141	Trip operator / Roller Holder for VCB
	1	ea	A-14144	Trip Linkage and Main Shaft Connector
	2	ea	A-14312	1" Collar
12	1	ea	A-14315	Pushrod Shaft Assembly (no splines)
	6	ea	A-13964	Pushrod to Main Shaft Pivot
	1	ea	A-14100	Pushrod Shaft
13	1	ea	A-14316	Pushrod Shaft Linkage Assembly
	1	ea	A-13964	Pushrod to Main Shaft Pivot
	1	ea	A-14312-1	1" Collar Drilled at 19°
14	3	ea	A-14077	Push Rod for Visible Disconnect
15	1	ea	A-14406	1/4" x 1-1/2" Roll Pin
16	3	ea	A-14097	Copper Pivot Block for VCB
17	3	ea	A-14095	Load Side Copper Blade Support
18	3	ea	A-14096	Line Side Copper Blade Support
19	15	ea	A-14156	Plated Stationary Blade
20	30	ea	A-2076	Large Non-Threaded Clip
21	15	ea	A-2069-4	#10-32 x 1 Indented Hex Washer Head Slotted Machine Screw 18-8 S.S.
22	15	ea	A-10940	#10-32 Zinc Toplock Locknut
23	6	ea	A-14094	Phase Blade for VCB
24	3	ea	A-1284	1/4" X 1" Insulator
25	1	ea	A-14093	Ground Bus
26	1	ea	A-13978	Trip Operator
27	1	ea	A-14318	Trip Adapter Assembly
	1	ea	A-14141	Trip operator / Roller Holder for VCB
	1	ea	A-14099	Tripping Adapter
28	1	ea	A-14140	Terminal Block Mounting Plate
29	1	ea	A-14238	Spring Mount
30	1	ea	A-14236	Spring
31	1	ea	A-14368	Spring Operator Assembly
	1	ea	A-13964	Pushrod to Main Shaft Pivot
	1	ea	A-14312	1" Collar
32	1	ea	A-14363	Cam Assembly for Auxilary Switch
	1	ea	A-14142	Cam for Auxilary Switch Part A and Part B
	1	ea	A-14312-2	1" Collar
33	2	ea	A-14143	Linkage Between Main Shafts
34	1	ea	A-14338	Switch Handle Assembly
		ea	A-14338	Standard Switch Handle
	1	ea	A-14338-45	45° Switch Handle
		ea	A-14338-90	90° Switch Handle
	1	ea	A-14338-1	Hexagonal Switch Operator
	1	ea	A-14338-3	Handle Grip
35	1	ea	A-14232	Angle Phase Support
36	35	ea	A-7105	Terminal Block

37	1	ea	A-7105-1	Terminal Block End Barrier
38	2	ea	A-7105-2	Terminal Block End Anchor
39	43	in	A-14233-1	1" Panduit Wire Track
40	43	in	A-14233-9	1" Panduit Wire Track Cover
41	18.5	in	A-14234	Din Rail
42	2	ea	A-6081	Roller Lever Limit Switch
43	4	ft	A-14222	4 Conductor Dual Twisted Shield Cable
44	4	ft	A-14223	19 Conductor Wiring Harness
45	11	ea	A-14235	5/16" Nylon Flat Washer
46	54	ea	A-2067-1	1/4" Flat Washer
47	7	ea	A-2067-2	5/16" Flat Washer
48	32	ea	A-2067-3	3/8" Flat Washer
49	44	ea	A-2071-1	1/4" Lock Washer
50	1	ea	A-14374-1	Small Nylon Loop Clamp
51	28	ea	A-2071-3	3/8" Lock Washer
52	4	ea	A-2084-1	3/4" Long 3/8" N.C. Hex Head Cap Screw
53	4	ea	A-2084-2	1" Long 3/8" N.C. Hex Head Cap Screw
54	28	ea	A-2084-3	1 1/4" Long 3/8" N.C. Hex Head Cap Screw
55	7	ea	A-2086	3/8" N.C. Nut
56	4	ea	A-14411	#8 x 1" Pan Head Screw
57	4	ea	A-14411-1	#8 Lock Washer
58	7	ea	A-2081-3	1/2" Long 1/4" N.C. Hex Head Cap Screw
59	30	ea	A-2081-5	3/4" Long 1/4" N.C. Hex Head Cap Screw
60	14	ea	A-2081-6	1" Long 1/4" N.C. Hex Head Cap Screw
61	3	ea	A-14237	m16 x 30mm Hex Head Cap Screw
62	3	ea	A-14237-1	m16 Lock Washer
63	3	ea	A-14237-2	m16 Flat Washer
64	8	ea	A-14237-3	m10 x 25mm Hex Head Cap Screw
65	8	ea	A-14237-4	m10 Lock Washer
66	8	ea	A-14237-5	m10 Flat Washer
67	1	ea	A-14237-6	m6 x 50mm Hex Head Cap Screw
68	1	ea	A-14237-7	m6 Lock Washer
69	1	ea	A-14237-8	m6 Flat Washer
70	3	ea	A-14333-1	5/16" X 1-3/4" SS Clevis Pin
71	5	ea	A-14333-2	5/16" X 1-1/2" SS Clevis Pin
72	1	ea	A-14352	Double Panhead Bolt
73	3	ea	A-074	5/16" X 3/4" Shoulder Bolt
74	6	ea	A-14351	5/16" Bellville Washer
75	8	ea	A-14364	1/4" N.C. Nut
76	7	ea	A-14369	0.093" X 1-5/8" OAL Zinc Plated Hairpin Cotter (1/4" to 1/2" Shaft Size)
77	7	ea	A-14358	5/16" Stainless Steel Flat Washer
78	4	ft	A-14372	3/4" Split Loom Tube
79	4	ea	A-14374	Nylon Loop Clamp
80	3	ea	A-14398	5/16" x 1-1/4" Stainless Steel Shoulder Bolt
81	1	ea	A-14398-1	5/16" x 3/8" Stainless Steel Shoulder Bolt
82	6	ea	A-14407	1/4" Lock Nut
	2	ea	A-14312	1" Collar
83	3	ea	A-14726	5/16" X 1/2" Allen Head Set Screw w / Knurel-Grip Cup
84	1	ea	A-14402	Isovac Switch Grease