PRODUCT BROCHURE

Crane Control Class 9004

Master Switches

HUBBELL

Class 9004 VM Master Switches

The Vertical Mount Master Switch is a slender, vertical, floor mounted master switch for use with all types of magnetic or solid-state controls for cranes and hoists, mill auxiliaries, and many other applications. This switch can accommodate a maximum of 16 circuits and 6 speed points.

Applications

- Mill duty construction
- Large number of modifications available
- Contact arrangement custom designed to application
- Operate multi-speed motor controllers

Class 9004 CM Master Switches

The Console Mounted Master Switch is a rugged, desktop mounted master switch for use with all types of magnetic and solid-state controls for cranes and hoists, mill auxiliaries, and many other applications. This switch can accommodate a maximum of 16 circuits and 6 speed points.

Applications

- All types of magnetic or solid-state controls for cranes and hoists
- Mill auxiliaries
- Various control applications

Features:

- 3-point mounting
- Can be installed for right-handed or left-handed operation (right-hand operation is standard, left-hand operation is optional)
- Masters with standard operating handles may be mounted as follows:
  - 8-circuit masters on a minimum of 7⅞ in. (200 mm) centers
  - 12-circuit masters on 9 in. (229 mm) centers
  - 16-circuit masters on 10⅛ in. (257 mm) centers

Order Information

The standard master switch is supplied with a standard operating handle arranged for right hand operation.

Vertical Mounted Master Switch

Maximum Number of Circuits Including Off-Position Reset	Number of Speed Points Each Direction	Open Type		General Purpose Enclosure NEMA Type 1
		Type	Type*	Type*
9	1-6	VO9	VR9	VG9
12		VO12	VR12	VG12
16		VO16	VR16	VG16

**Type VR switches are open switches adapted for use in a Hubbell Bulletin 4216 enclosure*

Console Mounted Master Switch

Maximum Number of Circuits Including Off-Position Reset	Number of Speed Points Each Direction	General Purpose Enclosure NEMA Type 1
		Type*
8	2-6	CG8
12		CG12
16		CG16

Control Type Identification

Control Class	Controller		Control Type**
	Description	Class and Type of Contactor Used	
6121	Hoist	7004 M	W
6121	Travel		U
6131	Hoist	7004 M	Y or W
6131	Travel		Z or U

***For standard control scheme*

Modifications

Description	Optional Feature Form Letter	Vertical Mounted Master Switch	Console Mounted Master Switch
Left hand operation	L	•	•
Spring return to off point	S	•	•
Push button in handle—N.O. contact (reduce the number of circuits available by one)	B	•	•
Off point mechanic latch	O	•	—
Short 24-in high enclosure	E	•	—
Potentiometer (x = Pot resistance) Cannot be combined w/Form E	P1-x	•	—

Application Data Contact Ratings

VDC	DC Amperes		VAC	AC Amperes		
	Continuous	Interrupting		Inrush	Continuous	Interrupting
115	15	1.5	120	30	15	10
230	15	0.9				

Order Information Required:

- Class
- Type
- Form
- If for use with controller other than EC&M, specify number of speed points and contact arrangement in addition to Class and Type numbers

Order Example

To Order Specify:	Catalog Number Example		
Class Number Type*** Form(s)	**Class**	**Type**	**Form(s)**
	9004	VG12W5	S

****Consists of master switch type, control type identification and the number of speed points*

Instructions

To indicate a Master Switch sequence of operation, use the following method:

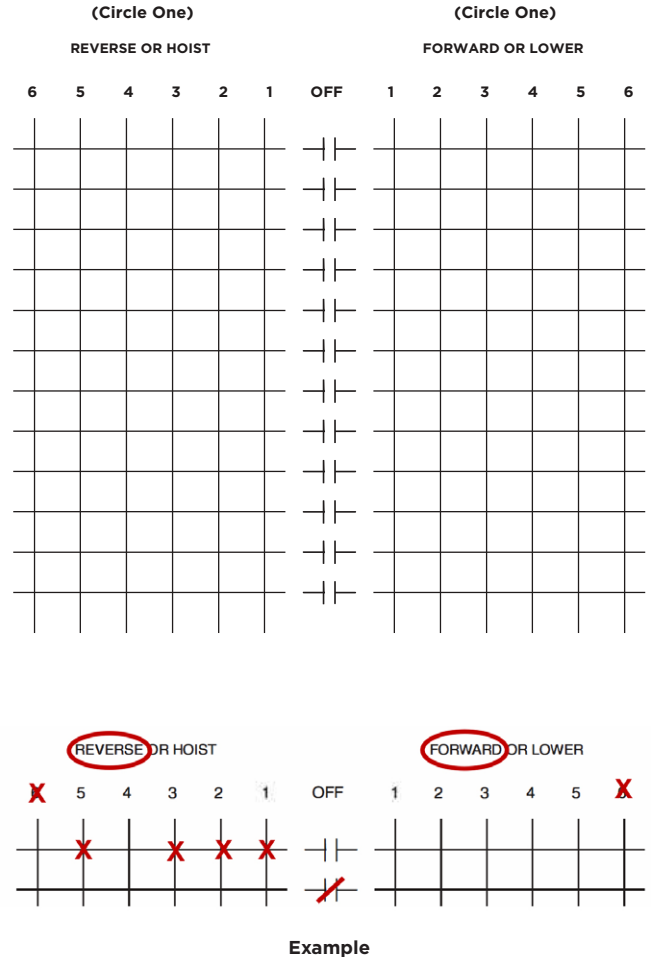
- Mark with an X to indicate which master switch contact will close, and/or remain closed, in each speed point position.
- To indicate a contact closure in the OFF position, replace the Normally Open Contact symbol with a Normally Closed symbol.

Example

The 1st contact below is shown open in the OFF position, closed in Reverse for Speed Positions 1 through 3, then shown open in Speed Position 4, then reclosed in Speed Position 5, with no 6th Speed Position. The same contact is shown open in all Forward Speed Positions, with no 6th Speed Position.

The second contact is shown closed in the OFF position, and is shown open in all other positions, both Reverse and Forward.

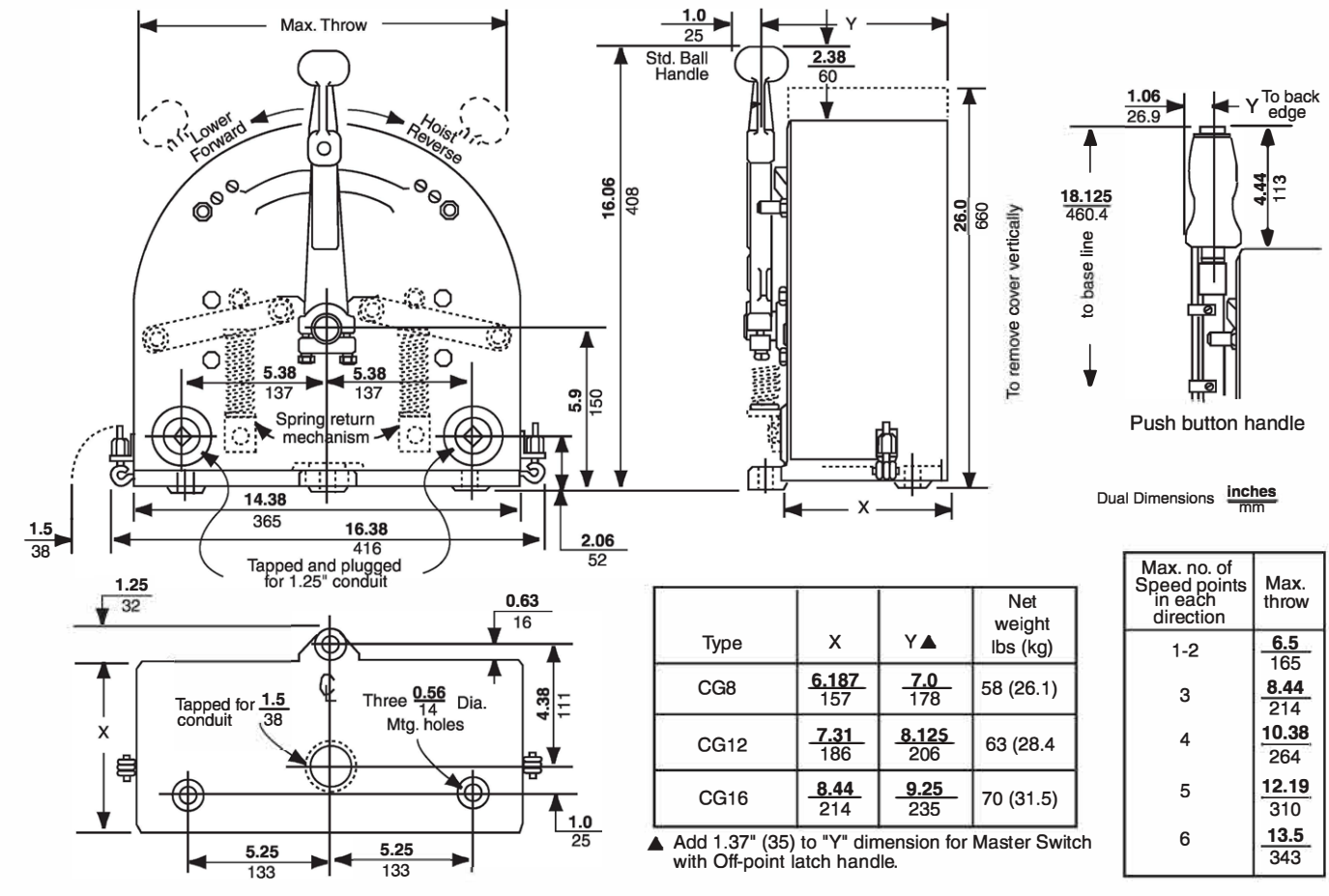
Note: A Master Switch sequence of operation is not the same as a control panel's contactor sequence of operation



Example

Console Mounted Master Switch

Approximate Dimensions and Weights



Type	X	Y▲	Net weight lbs (kg)
CG8	6.187 / 157	7.0 / 178	58 (26.1)
CG12	7.31 / 186	8.125 / 206	63 (28.4
CG16	8.44 / 214	9.25 / 235	70 (31.5)

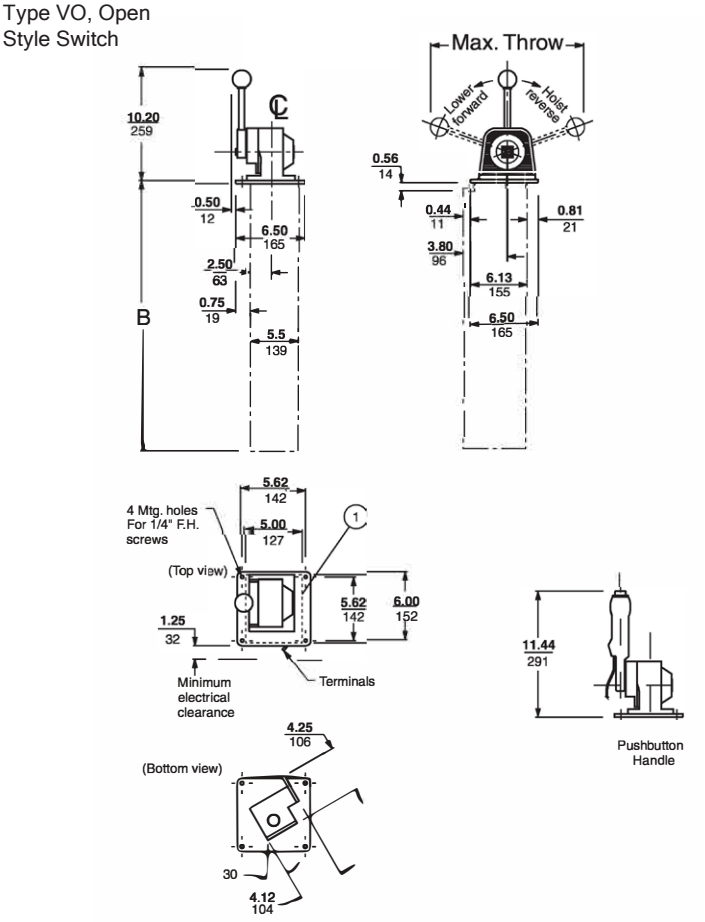
▲ Add 1.37" (35) to "Y" dimension for Master Switch with Off-point latch handle.

Max. no. of Speed points in each direction	Max. throw
1-2	6.5 / 165
3	8.44 / 214
4	10.38 / 264
5	12.19 / 310
6	13.5 / 343

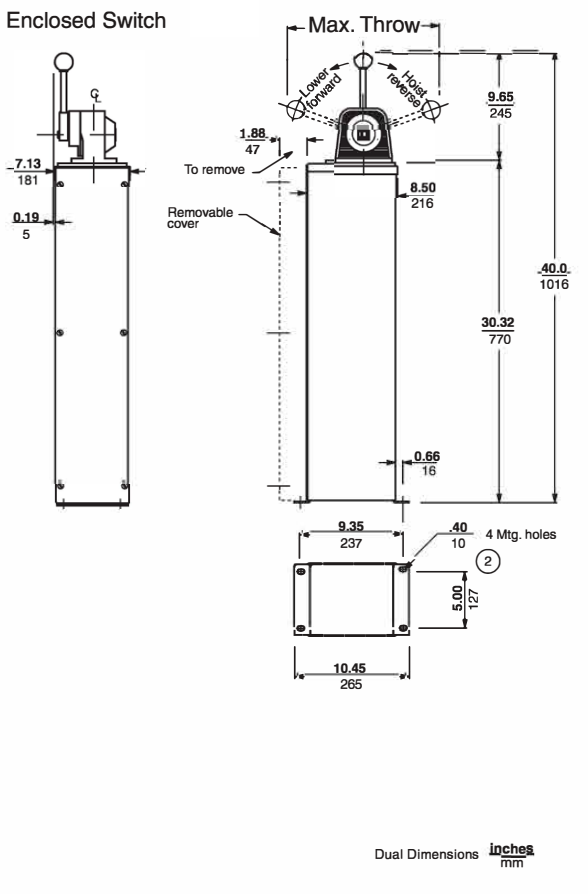
Vertically Mounted Master Switch

Approximate Dimensions and Weights

Type VO, Open Style Switch



Enclosed Switch



Notes: Dashed line represents 5" x 6"cutout in bench board up to .25" thick. The switch must be turned approximately 30° during withdrawal through cutout for clearance of lower part.

Mounting straps may be turned at right angle to position shown.

Master switches are shown for right hand operation. For left hand operation, the orientation of handle and gear box is reversed.

Open Master Switch			Enclosed Master Switch	
Type	**B+ (in/mm)**	**Net Weight lbs (kg)**	**Type**	**Net Weight lbs (kg)**
VO9	15.25 (387)	19 (8.6)	VG9	53 (24.1)
VO12	18.63 (473)	22 (10.0)	VG12	56 (25.5)
VO16	23.13 (587)	25 (11.4)	VG16	59 (26.8)

+ Add 1.38 in (35 mm) to "B" dimension for master switch with spring return.

** For Type VR - Consult Factory*

Maximum Number of Speed Points in Each Direction	Maximum Throw (in/mm)
1	3.5 (89)
2	7.88 (200)
3	10.00 (254)
4	11.75 (298)
5	13.25 (337)
6	14.25 (362)

Experience you can rely on to get your crane back up to full speed quickly and easily.

GET IN TOUCH:

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