

January 23, 2025
Project No. 221916

Adam Smith
City Manager
City of Grand Ledge
310 Greenwood Street
Grand Ledge, MI 48837

Change Order 3 – City of Grand Ledge Well 2 Raw Water Main, Description, and Impact

The following is a description of the items for Change Order 3 of the Grand Ledge Well 2 Raw Water Main Project:

Contract Modifications from Change Order:

- Original Contract Price – \$2,945,974.25
- Contract Price following previous Change Orders – \$2,891,712.98
- Modification to Contract Price from Change Order 3 – \$13,087.80
- Modification to Contract Price from all Change Orders – (\$41,173.47)
- Revised Contract Price with current Change Order – \$2,904,800.78

Table 1 – Change Order 3 Monetary Impact Breakdown

Item No.	Item Description	Contract Modification	Cumulative Contract Price
1	Addition of Generator Hookup	\$13,087.80	\$2,904,800.78

Narrative Description of Change Order

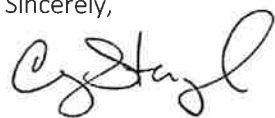
Change Order 3 includes the addition of a generator receptacle to Wellhouse 2 to allow for standby power using a portable generator.

Impact to Project

The items within this Change Order add cost to allow for Well 2 to be run using a portable generator. This item will add a total of \$13,087.80 to the project.

If you have any questions or require additional information, please contact me at 517.899.2641 or cstenzel@fishbeck.com

Sincerely,



Cory Stenzel

Senior Construction Manager

Attachments

By email

Copy: David Pawley – City of Grand Ledge
Kurt Ristow – City of Grand Ledge
Michael Berrevoets, PE – Fishbeck
John Willemin, PE – Fishbeck

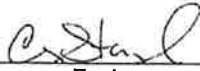
CHANGE ORDER
 PAGE 1 OF 2

CONTRACT FOR:	City of Grand Ledge Well 2 Raw Water Main
OWNER:	City of Grand Ledge 310 Greenwood Street Grand Ledge, MI 48837
CONTRACTOR:	E.T. MacKenzie Company 4248 W. Saginaw Highway Grand Ledge, MI 48837
ENGINEER:	Fishbeck 5913 Executive Drive, Suite 100 Lansing, MI 48911
ATTACHMENTS:	Bulletin 1 Pricing Response
Contractor shall indicate approval of Change Order through signing of this document and returning to Engineer. Engineer will forward to Owner, who shall indicate approval of Change Order through signing of this document and returning to Engineer. Upon receipt of fully executed (all signatures) Change Order, Engineer will distribute to all parties.	
YOU ARE DIRECTED TO MAKE THE FOLLOWING CHANGES IN THE CONTRACT DOCUMENTS:	
The following items changing the contract documents were chosen by the Owner for execution:	
<u>ITEM NO. 1:</u> Addition of Generator Hookup Sheet: 28 – Electrical Plan (reissued)	
A. Generator hookup added to project.	
ADD: \$13,087.80	

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES: N/A
Original Contract Price:	Original Contract time: <u>March 7, 2023</u>
<u>\$2,945,974.25</u>	Substantial Completion: <u>October 18, 2024</u>
	Ready for final payment: <u>November 1, 2024</u>
Net Change from Previous Change Orders: 1-2	Net change from previous Change Orders:
<u>\$54,261.27</u> decrease	<u>0 Days</u>
Contract Price prior to this Change Order:	Contract Time prior to this Change Order:
<u>\$2,891,712.98</u>	Substantial Completion: <u>November 13, 2024</u>
	Ready for final payment: <u>November 15, 2024</u>
Net increase of this Change Order:	Net change of this Change Order:
<u>\$13,087.80</u>	<u>196 Days</u>
Contract Price with all approved Change Orders:	Contract Time with all approved Change Orders:
<u>\$2,904,800.78</u>	Substantial Completion: <u>November 13, 2024</u>
	Ready for final payment: <u>May 30, 2025</u>

CHANGE ORDER
PAGE 2 OF 2

RECOMMENDED

By: 
Engineer
Cory Stenzel
Senior Construction Manager


Date: January 23, 2025

APPROVED

By: 
Contractor
Michael Marks
President

Date: 1/29/25

APPROVED

By: 
Owner
Adam Smith
City Manager

Date: 2/3/25

END OF CHANGE ORDER

BULLETIN
PAGE 1 OF 2

CONTRACT FOR:	City of Grand Ledge Well 2 Raw Water Main
OWNER:	City of Grand Ledge 310 Greenwood Street Grand Ledge, MI 48837
CONTRACTOR:	E.T. MacKenzie Company 4248 West Saginaw Highway Grand Ledge, MI 48837
ENGINEER:	Fishbeck 1515 Arboretum Drive, SE Grand Rapids, MI 49546
DRAWING REVISION NO.:	B1
ISSUED HEREWITH:	
SPECIFICATION SECTIONS:	None
SHEETS:	28

The items below are being considered as possible changes to the Contract Documents for this Project. Contractor is requested to submit changes in cost, if any, for each item and indicate whether it is an addition to or deduction from the Contract Price. Costs are requested as lump sums unless otherwise noted as a unit cost. Include all labor, materials, overhead and profit, trades, subcontractors, and related costs. After reviewing the effects of those changes in the Work, Owner may issue a Change Order specifying which changes are to be incorporated in the Work, if any.

This Bulletin is not a Change Order and is not to be deemed authorization to proceed with the changes listed.

Additional work or materials, where proposed, shall meet the requirements of the Contract Documents, except where noted.

Contractor is responsible for notifying Engineer, in writing, concerning any revision or clarification which causes a change in the Contract Documents, but not specifically mentioned as a cost item in this Bulletin.

Return one completed and signed copy of the Bulletin to Engineer on or before the due date noted above.

Each proposed change has been described briefly with additional information provided concerning detailed changes required for the major trades concerned. Only one total cost figure has been requested for each item on the Bulletin; however, a complete breakdown is required for each item as supporting documentation. This will allow Owner to more easily evaluate the proposed cost changes. Each Bulletin item is an all-inclusive item and may concern work from several trades or Subcontractors. It is Contractor's responsibility to ensure that all work for each item has been included in the total cost figure provided to Owner.

ITEM NO. 1: Addition of Generator Hookup
Sheet: 28 – Electrical Plan (reissued)

A. Generator hookup added to project.

~~ADD~~ DEDUCT: \$13,087.80*

**Inclusions and exclusions are as stated in the attached subcontractor quote.*

BULLETIN
PAGE 2 OF 2

Contractor: E.T. Mackenzie Company


Signature

Mary Cooley, Senior Project Manager
Name and Title of Signatory

1/16/2025

Date

END OF BULLETIN

O 517.543.9900
F 517.543.9911



PO BOX 490
POTTERVILLE, MI 48876

1/15/2025

ET McKenzie
ATTN: Mr. Parker

RE: Grand Ledge Well 2 Raw Water Main - Bulletin 1

Dear, Mr. Parker

Centennial Electric, LLC, is pleased to quote you for the above-mentioned project based off the Bulletin 1 summary and drawings issued 12/19/2024. We have included the following:

Included:

- Installation of a junction box with raceways to desired locations to make functional
- Installation of wire to and from MTS and desired locations to make functional
- Installation of manual transfer switch and generator plug on exterior of building
- Coring through exterior wall to install raceway to MTS
- Terminations to make operational
- Coordination with city to shut down well 2 for electrical install
- Submittal for transfer switch

Excluded

- Testing
- Bonds & Allowance
- Overtime & Shift Premiums
- Patching & Painting

No. 1 - Total \$11,898.00

Please do not hesitate to contact me with any questions.

Sincerely,

Tracy Sears
Project Manager

Bid Summary Report

Grand Ledge Iron Plant Estimator: Mike

Job #2187

Job Name: Grand Ledge Iron Plant

Contractor:

Estimator: Mike

Notes:

Bid Date: 12/1/2022

Summary Description	Material			Labor		
	Extended	%	Adjusted	Extended	%	Adjusted
GL Well 2 Bulletin #1	\$1,868.09	100.00%	\$1,868.09	25.48	100.00%	25.48

Top Sheet

Raw Cost	\$10,012.26	Sales per Month	\$0.00
Tax	\$384.12	Return per Month	\$0.00
Raw Cost with Tax	\$10,396.38	Price per Square Foot	\$0.00
Overhead	\$1,501.84	Hours per Square Foot	0.00
Profit	\$0.00	Square Feet	0.00
Total Return Amount	\$1,501.84	Job Months	0.00
Total Return %	12.62%	Hours per Week	0.00
Remaining Labor Hours	0.00	Average Hourly Rate w/ Burden	100.50
Price	\$11,898.22	Workers per Day	0.00
Bond	\$0.00	Total Hours	25.48
Sell Price	\$11,898.22	Markup Sales Tax (Overhead)	No
Adjusted Sell	\$0.00	Markup Sales Tax (Profit)	No
Adjusted Sell Return 0.00%	\$0.00	Use Bond Table	No

Labor

Class Description	Percent of Total	Hours Distributed	Hourly Rate	Burden		Labor Cost
				Rate	Percent	
Journeyman Local 665	96.49%	24.58	\$99.62	\$0.00	0.00%	\$2,448.75
Foreman Local 665	0.00%	0.00	\$114.56	\$0.00	0.00%	\$0.00
Project Manager Time	3.51%	0.90	\$124.53	\$0.00	0.00%	\$111.46
Totals	100.00%	25.48	\$100.50	\$0.00	0.00%	\$2,560.21

Bid Summary Report

Grand Ledge Iron Plant Estimator: Mike

Job #2187

Mark Ups	OVERHEAD			PROFIT	
	Total	%	Amount	%	Amount
Materials	\$1,868.09	+ 15.00%	\$2,148.31	+ 0.00%	\$2,148.31
Labor	\$2,560.21	+ 15.00%	\$2,944.25	+ 0.00%	\$2,944.25
Supplier Quotes	\$4,533.95	+ 15.00%	\$5,214.04	+ 0.00%	\$5,214.04
SubContractors	\$0.00	+ 15.00%	\$0.00	+ 0.00%	\$0.00
Direct Job Expense	\$1,050.00	+ 15.00%	\$1,207.50	+ 0.00%	\$1,207.50
Equipment Rental	\$0.00	+ 15.00%	\$0.00	+ 0.00%	\$0.00
Fixtures Quotes	\$0.00	+ 15.00%	\$0.00	+ 0.00%	\$0.00
Totals	\$10,012.26	15.00%	\$11,514.10	0.00%	\$11,514.10

Tax Report	Taxed Amount	Tax Rate %	Tax Amount
Materials	\$1,868.09	6.00%	\$112.09
Labor	\$2,560.21	0.00%	\$0.00
Supplier Quotes	\$4,533.95	6.00%	\$272.04
SubContractors	\$0.00	0.00%	\$0.00
Direct Job Expense	\$0.00	0.00%	\$0.00
Equipment Rental	\$0.00	6.00%	\$0.00
Fixtures Quotes	\$0.00	6.00%	\$0.00
		Total Tax:	\$384.12

Supplier Quotes

Name	Supplier	Tax (6.0%)	Unit Cost	Mult	Amount
MTS & Plug	Kendall	Yes	\$4,533.95	1.00	\$4,533.95
Totals:					\$4,533.95

Direct Job Expense

Name	Supplier	Tax (0.0%)	Unit Cost	Mult	Amount
Telephone		No	\$50.00	1.00	\$50.00
Permit / Fees		No	\$350.00	1.00	\$350.00
Fuel, Oil & Gas		No	\$150.00	1.00	\$150.00
As Builts		No	\$500.00	1.00	\$500.00
Totals:					\$1,050.00

Job Name: Grand Ledge Iron Plant
 Job Number: 2187
 Extension Name: GL Well 2 Bulletin #1

Item #	Item Name	Quantity	Book Price	U	Ext Book Price	NECA 1	U	Labor 1 Ext	CCode	% of Extended Price	% of Extended Hours
Label Set: Combined, Combined, Combined, Combined, Combined											
CCode: <undefined>											
	60,204 24"x24" x 6" Nema 1 J-Box	1.00	\$275.00 E		\$1,868.09			25.48		100%	100%
	60,205 #1 THHN	51.00	\$3,638.44 M		\$890.86	2.00 E		17.10		47.69%	67.11%
	60,206 #6 THHN	17.00	\$1,351.54 M		\$275.00	19.00 M		2.00			
	60,207 #3 THHN	39.00	\$2,608.66 M		\$185.56	11.00 M		0.97			
	60,208 #8 THHN	13.00	\$752.64 M		\$22.98	15.00 M		0.19			
	60,209 #12 THHN	148.00	\$309.45 M		\$101.74	9.00 M		0.58			
	60,210 Mount MTS	1.00	\$100.00 E		\$9.78	6.00 M		0.12			
	60,211 KnockOut Fillers	2.00	\$7.50 E		\$45.80	5.00 E		0.89			
	60,212 Remove and Replace Eye Wash	1.00	\$5.00 E		\$100.00	0.15 E		0.30			
	60,213 Polaris Taps	3.00	\$35.00 E		\$5.00	1.00 E		1.00			
	60,214 Generator Plug Install	1.00	\$5.00 E		\$105.00	0.35 E		1.05			
	60,215 Core Wall	2.00	\$10.00 E		\$5.00	1.00 E		1.00			
CCode: Branch Rough											
	5,490 3/4 FLEX WP	10.00	\$305.31 C		\$133.28	5.00 C		0.94		7.13%	3.69%
	5,550 3/4 FLEX WP 90 CONN	2.00	\$5,137.63 C		\$102.75	0.22 E		0.50 cb			
CCode: Feeder Rough											
	2,347 2" X 6" NIPPLE GRC	1.00	\$46.51 E		\$834.71	0.60 E		3.56		44.68%	13.97%
	2,348 2" X 8" NIPPLE GRC	1.00	\$67.09 E		\$46.51	0.60 E		0.60 cf			
	2,350 2" X 12" NIPPLE GRC	2.00	\$91.49 E		\$67.09	0.60 E		0.60 cf			
	5,493 1 1/2 FLEX WP	2.00	\$897.20 C		\$182.98	15.00 C		1.20 cf			
	5,553 1 1/2 FLEX WP 90 CONN	2.00	\$26,009.54 C		\$17.94	0.43 E		0.30 cf			
CCode: Lugs/Termination/Ground											
	5,766 15A WIRE TERMINATION	6.00	\$0.00 X		\$9.24	0.12 E		3.88		0.49%	15.23%
	5,778 100A CIRCUIT TERM	2.00	\$0.00 X		\$0.00	0.45 E		0.72 sl			
	5,779 125A CIRCUIT TERM	4.00	\$0.00 X		\$0.00	0.55 E		0.90 sl			
	16,185 GROUND SCREW/#12 PIGTAIL	1.00	\$923.78 C		\$9.24	0.06 E		2.20 sl			
									25.48		
									\$1,868.09		



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KENDALL ELECTRIC
7633 LANAC ST
LANSING MI 48917-9517
517-322-2411 Fax 517-322-0743

Sold To: 46324
CENTENNIAL ELEC GENERAL
PO BOX 490
POTTERVILLE, MI 48876-0490

Ship To: 47543
CENTENNIAL ELEC GENERAL PURCH
3300 W MAIN ST
LANSING, MI 48917-4389

Quotation S115123664

Order Date: 01/14/25
Terms: 2% 10th PROX Net 30th
Customer PO# Release #
Ordered By: TRACY
Phone: 517-543-9900

Warehouse	Ship Via	Freight Allowed	Account Manager	Inside Salesperson
EKDC	ELAN34	Out: No In: No	BRENDON RANKIN, ELAN	ALEC MARTENS, ELAN
Cust Ln #	ID #	Description	Req Date	Ext Amount
	2167424	AREA10426 C-H 100AMP-ARKTITE NON-HAZ LOC **EST. 14-16 WEEK LEAD TIME ARO**	01/14/25	607.705/e
	4787836	DT364URKN CH 200A/3P HD NON-FUSIBLE DOUBLE THROW SWITCH 600V NEMA 3R **EST. 4-5 WEEK LEAD TIME ARO** *** TAXES NOT INCLUDED ***	01/14/25	3,926.235/e
This quotation is an offer to sell you the goods or services described herein or the terms set forth above and or our Terms and Conditions of Sale which are available at https://www.kendallgroup.com/legal/notices/cr by calling 800-632-5422. Your order of any goods or services identified in this quotation constitutes your acceptance of our standard Terms and Conditions of Sale. We object to any additional or different terms attached to, incorporated within, or referenced in your order, including, but not limited to, any delivered electronically, and we reject any prior offers we received from you. Requests for certificates of origin, certificates of compliance or similar documents must be made prior to or at the time of order. A request does not create a requirement for us to provide such documents. Prices expire on and are subject to change after thirty (30) days. Wire, conduit & pipe pricing valid for the date of the quotation only. Opened, special order or non-stock items may not be returnable.				4533.95
Subtotal				TBD
S&H CHGS				TBD
Sales Tax				
Amount Due				4533.95



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GL Well #2 Bulletin #1

Submittal for Approval

Negotiation Number

V41T1226X4K1

Volume 1 of 1

Equipment:

Safety Switches



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Main Table of Contents

- 1.0 Safety Switches
 - 1.1 Bill of Material
 - 1.2 Drawings
 - 1.3 Technical Documents



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Safety Switches



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Section Table of Contents

Safety Switches

- 1.0 Safety Switches
 - Section Table of Contents
 - 1.1 Bill of Material
 - 1.1.1 Separate Bills of Material by Product (Detailed)
 - 1.2 Drawings
 - 1.2.1 DT364URKN - Safety Switches -
 - 1.3 Technical Documents
 - 1.3.1 Safety Switch Catalog Number System
 - 1.3.2 Safety Switch Double-Throw Tech Data



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Bill of Material

Detail Bill of Material

Project Name: GL Well #2 Bulletin #1
General Order No:

Negotiation No: V41T1226X4K1
Alternate No: 0000

Item No.	Qty	Product	Description
	1	Safety Switches	SSW2
		Catalog No	DT364URKN
	Qty	List of Materials	
	1	Double Throw - Heavy Duty - Non-Fusible with Neutral, 3-Pole, 600 VAC, 200 A, NEMA 3R	
	1	Neutral Assembly - Price Included with switch.	

Eaton Selling Policy 25-000 applies.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.

Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.

This quotation is an offer to sell you the goods or services described herein on the terms set forth above and, unless otherwise agreed in a signed writing on our standard Terms and Conditions of Sale which are available at www.kendallelectric.com/tandc.asp or by calling 800-632-5422. Your order of any goods or services identified in the quotation constitutes your acceptance of our standard Terms and Conditions of Sale. We object to any different or additional terms and reject any prior offers we received from you. Prices expire on and are subject to change 30 days after bid date.



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Drawings

General Information: Safety Switches

Global Specifications

System Voltage	600 VAC
Switch Type	Double Throw - Heavy Duty
Poles/Blades	3-Pole
Amperage	200
Protection	Non-Fusible with Neutral
Enclosure Type	NEMA 3R
Fuse Clips	Switch Lugs
(1) 6-250	Fungus Proof Treatment
None	Lock-On Provision
None	Trapped Key Interlock
None	Fuse Pullers
None	Control Pole
None	Ground Lugs
(3) 14-2	Stainless Mechanism
None	Mill Duty
None	Cover Controls
DESCRIPTION	QUANTITY
	Nameplate
	Safety Switch Catalog No.

The information on this document is created by Eaton Corporation. It is disclosed in confidence and it is only to be used for the purpose in which it is supplied.	PREPARED BY ALEC MARTENS		DATE 1/15/2025		
	APPROVED BY		DATE		
	VERSION 1.0.4.0		TYPE SSW2		DRAWING TYPE Customer Appr.
NEG-ALT Number V41T1226X4K1-0000	REVISION 0	DWG SIZE A	G.O.	ITEM	SHEET 1 of 1



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Missing File: <https://www.eaton.com/content/dam/eaton/products/low-voltage-power-distribution-controls-systems/load-centers/air-conditioning-disconnects/eaton-safety-switch-renewal-parts-rp00801001e-ca.pdf>

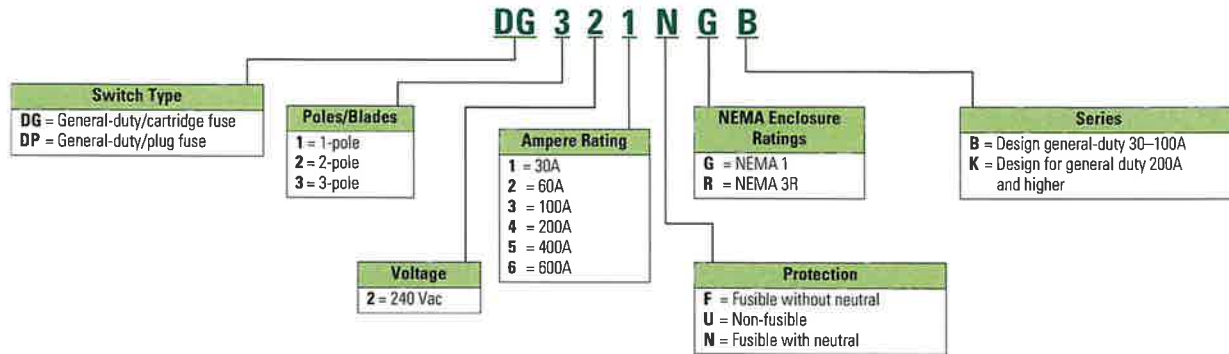


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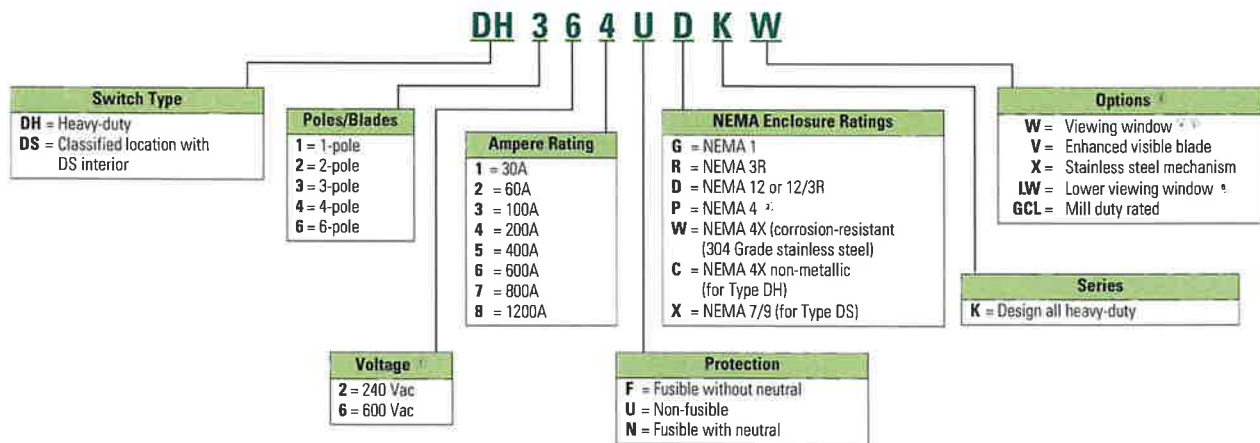
Technical Documents

Catalog Number Selection

General-Duty



Heavy-Duty



Notes

- ¹⁾ For DC ratings, check individual switch ratings.
- ²⁾ Only available for 400A and higher safety switches.
- ³⁾ See Modifications-Flex Center for additional available options.
- ⁴⁾ All window switches feature enhanced visible blade design as standard.
- ⁵⁾ Only available in NEMA 12/3R and NEMA 4X enclosures.
- ⁶⁾ Only available in 200 to 1200A NEMA 12/3R and NEMA 4X enclosures.

These tables are intended for use in breaking down existing catalog numbers. They are not intended for building new catalog numbers.

A factory-installed ground lug is supplied in all heavy-duty safety switches.

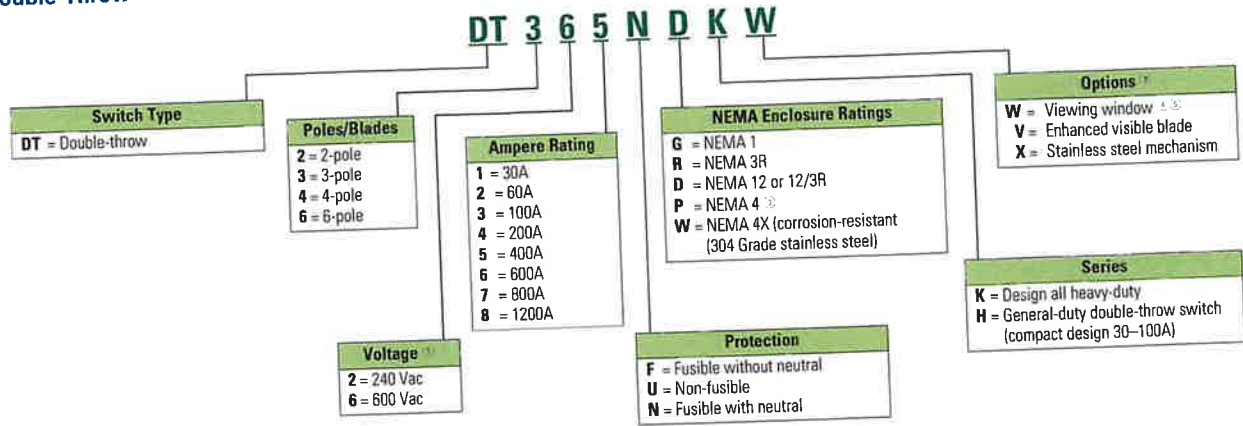
1.1

Switching Devices

Safety Switches

1

Double-Throw



Notes

- For DC ratings, check individual switch ratings.
- Only available for 400A and higher safety switches.
- See Modifications-Flex Center for additional available options.
- All window switches feature enhanced visible blade design as standard.
- Only available in NEMA 12/3R and NEMA 4X enclosures.

These tables are intended for use in breaking down existing catalog numbers. They are not intended for building new catalog numbers.
A factory-installed ground lug is supplied in all heavy-duty safety switches.



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1.1

Switching Devices

Safety Switches

1

Heavy-Duty Double-Throw



Double-Throw Switches

Product Description

Used to transfer service from a normal power source to an alternate source... or to switch from one load circuit to another.

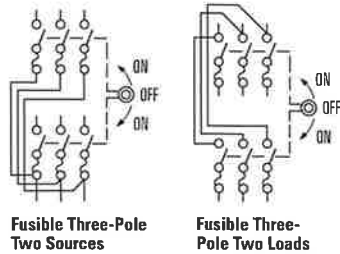
- 30–1200A
 - Horsepower rated
 - 600 Vac, 250 Vdc maximum
 - 600–1200A fusible utilize common set of fuses as Eaton's stacked double-throw design. The stacked design is suitable for two source 1 load applications only
 - 600–800A fusible are available for one source 2 load applications; include an "R" at the end of the catalog number
 - Fusible or non-fusible
 - Fusible and non-fusible switches are 100% load break and 100% load make rated
- Suitable for service entrance applications unless otherwise noted
 - The continuous load current of fusible switches is not to exceed 80% of the rating of fuses employed in other than motor circuits. Non-fusible switches are 100% fully rated
 - Wiring configuration from factory allows a single load to be supplied by a normal or alternate source. 30–800A can be field modified to allow two loads to be alternately supplied by a single power source, except for stacked design double-throw switches

Features, Benefits and Functions

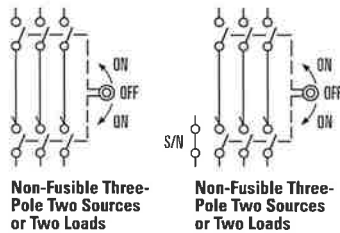
- Ample wire bending space provides for easier installation
- Visible double-break quick-make, quick-break rotary blade mechanism. Two points of contact provide a positive open and close, easier operation, and also help prevent contact burning for longer contact life
- Triple padlocking capability. Personnel safety feature since the large hasp can accommodate up to three 3/8-inch (9.5 mm) shank locks. Clearly visible handle. The position (ON or OFF) can be clearly seen from a distance
- Deionizing arc chutes; arc chutes confine and suppress the arcs produced by opening contacts under load
- Additional locking capability; cabinet door can be further padlocked at the top and bottom
- Clear line shield (provided on fusible double-throw) protects against accidental contact with energized parts. Probe holes enable the user to test if the line side is energized without removing the shield
- Tangential knockouts on sides, top and bottom. Enables any size of conduit to be mounted close to the wall, providing for cable installation closer to the wall and a neat appearance

Technical Data and Specifications

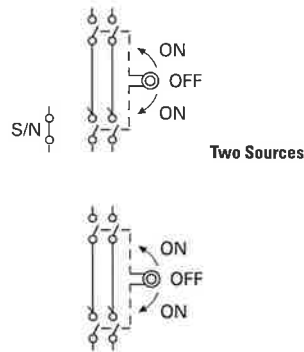
Typical Fusible, Double-Throw Schematic Diagram



Typical Non-Fusible, Double-Throw Schematic Diagram



Typical General-Duty, Double-Throw Schematic Diagrams (with and without factory-installed neutral)



Short-Circuit Ratings Using Class "R", "J", "L" or "T" Fusing Where Applicable

Ampere Rating	Voltage Ratings			
	Type 1	Type 3R	Type 12	Type 4 and 4X
30	100k at 600	100k at 600	100k at 600	100k at 600
60	100k at 600	100k at 600	100k at 600	100k at 600
100	100k at 600	100k at 600	100k at 600	100k at 600
200	100k at 600	100k at 600	100k at 600	100k at 600
400	100k at 600	100k at 600	100k at 600	100k at 600
600	100k at 600	100k at 600	100k at 600	100k at 600
800	100k at 600	100k at 600	—	—
1200	100k at 600	100k at 600	—	—

Dimensions

Approximate Dimensions in Inches (mm)

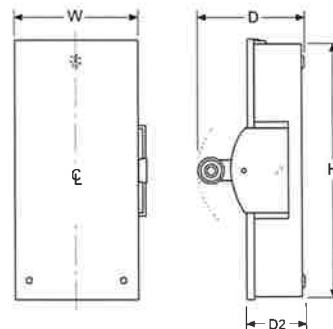
General-Duty, Non-Fusible, 240V, Two-Pole Solid Neutral, Double-Throw, Compact Design

Ampere Rating	Height (H)	Width (W)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 3R					
30	14.69 (373.1)	9.63 (244.6)	10.81 (274.6)	5.23 (132.8)	12 (5.5)
60	14.69 (373.1)	9.63 (244.6)	10.81 (274.6)	5.23 (132.8)	12 (5.5)
100	14.69 (373.1)	9.63 (244.6)	10.81 (274.6)	5.23 (132.8)	12 (5.5)

General-Duty, Non-Fusible, 240V, Two-Pole Solid Neutral, Double-Throw, Quick-Make, Quick-Break Design

Ampere Rating	Height (H)	Width (W)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 3R					
30	24.63 (625.6)	11.94 (303.3)	9.88 (251.0)	5.38 (136.7)	34 (15.4)
60	24.63 (625.6)	11.94 (303.3)	9.88 (251.0)	5.38 (136.7)	34 (15.4)
100	24.63 (625.6)	11.94 (303.3)	9.88 (251.0)	5.38 (136.7)	34 (15.4)
200	37.38 (949.5)	19.56 (496.8)	11.25 (285.8)	6.10 (154.9)	80 (36.3)
400	53.81 (1366.8)	23.13 (587.5)	12.50 (317.6)	8.88 (225.6)	140 (63.6)

NEMA 3R, 30–400A, General-Duty, Non-Fusible, Double-Throw



Notes

Class "H" fuse clips supplied as standard for 30–400A except Class "T" for 400A at 600V. Rated at 10,000 rms symmetrical when using Class "H" fuses.

Table is not applicable to the compact design shown on [Page V2-T1-47](#). The compact design is suitable for use on a circuit capable of delivering not more than 10,000 rms symmetrical amperes.

Class "R" fuse adapter kits are shown on [Page V2-T1-13](#) and yield the short-circuit ratings per the tables above when Class "R" fuses are installed. When installed, Class "R" fuse adapter kits reject all fuses except Class "R."

Class "J" fuse provisions can be obtained on most 60–400A safety switches by moving the fuse base to a new position as instructed by the device publication label. Class "J" fuse adapter kits, where needed, are shown on [Page V2-T1-13](#) and yield the short-circuit ratings per the tables above when Class "J" fuses are installed. Class "J" fuse provisions must be factory installed on 30A heavy-duty switches. Catalog numbers are shown in table on [Page V2-T1-15](#). Class "J" fusing is not applicable on 30–200A general-duty switches, 30–100A double-throw switches, and any switch higher than 600A.

Class "T" fuse adapter kits are shown on [Page V2-T1-13](#). Individual adapter kits are applicable to 200–800A switches as shown on [Page V2-T1-13](#) and yield the short-circuit ratings per the tables to the left when Class "T" fuses are installed. On 1200A switches, Class "T" fuse provisions can be obtained by moving the fuse base to a new position as instructed by the device publication label.

1.1

Switching Devices

Safety Switches

1

Approximate Dimensions in Inches (mm)

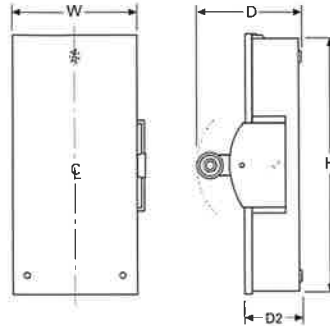
Heavy-Duty, Non-Fusible, 240V and 600V, Three-Pole, Double-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	11.94 (303.3)	24.63 (625.6)	9.88 (251.0)	5.38 (136.7)	34 (15.436)
60	11.94 (303.3)	24.63 (625.6)	9.88 (251.0)	5.38 (136.7)	34 (15.436)
100	11.94 (303.3)	24.63 (625.6)	9.88 (251.0)	5.38 (136.7)	34 (15.436)
200	19.56 (496.8)	37.38 (949.5)	11.25 (285.8)	6.10 (154.9)	80 (36.32)
400	23.13 (587.5)	53.81 (1366.8)	12.50 (317.5)	7.25 (184.2)	140 (63.56)
600	27.44 (697.0)	63.31 (1608.1)	14.13 (358.9)	8.88 (225.6)	175 (79.45)
800	27.44 (697.0)	63.31 (1608.1)	14.13 (358.9)	8.88 (225.6)	175 (79.45)
1200	42.62 (1082.5)	78.11 (1984.0)	29.62 (752.3)	20.47 (519.9)	473 (214.6)
NEMA 12, 4X Stainless Steel					
30	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27.24)
60	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27.24)
100	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27.24)
200	19.50 (495.3)	41.00 (1041.4)	11.63 (295.4)	6.48 (164.6)	105 (47.67)
400	23.00 (584.2)	57.50 (1460.5)	12.50 (317.5)	7.25 (184.2)	185 (83.99)

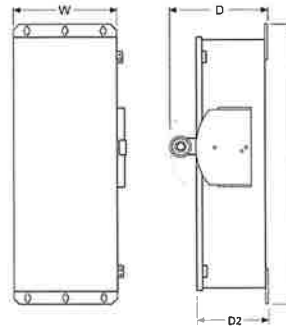
Heavy-Duty, Fusible, 240V and 600V, Three-Pole, Double-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	11.94 (303.3)	36.63 (930.4)	9.88 (251.0)	5.38 (136.7)	44 (19.976)
60	11.94 (303.3)	36.63 (930.4)	9.88 (251.0)	5.38 (136.7)	44 (19.976)
100	11.94 (303.3)	36.63 (930.4)	9.88 (251.0)	5.38 (136.7)	44 (19.976)
200	19.56 (496.8)	50.88 (1292.4)	11.25 (285.8)	6.10 (154.9)	95 (43.13)
400	25.38 (644.7)	74.75 (1898.7)	14.13 (358.9)	8.88 (225.6)	230 (104.42)
600	28.12 (714.3)	58.86 (1495.0)	25.62 (650.7)	20.47 (520.0)	282 (127.9)
800	28.12 (714.2)	58.86 (1495.0)	25.62 (650.7)	20.47 (519.9)	282 (127.9)
1200	42.62 (1082.5)	78.11 (1984.0)	29.62 (752.3)	20.47 (519.9)	509 (230.9)
NEMA 12, 4X Stainless Steel					
30	12.00 (304.8)	39.81 (1011.2)	10.25 (260.4)	5.50 (139.7)	45 (20.43)
60	12.00 (304.8)	39.81 (1011.2)	10.25 (260.4)	5.50 (139.7)	45 (20.43)
100	12.00 (304.8)	39.81 (1011.2)	10.25 (260.4)	5.50 (139.7)	45 (20.43)
200	19.56 (496.8)	55.63 (1413.0)	11.63 (295.4)	6.46 (164.1)	100 (45.4)
400	25.38 (644.7)	74.75 (1898.7)	14.13 (358.9)	8.92 (226.6)	260 (118.04)

NEMA 1, 3R Double-Throw 30–1200A



NEMA 12, 4X Double-Throw 30–400A



Standards and Certifications

- UL listed switching neutral capability is available on three-pole and four-pole non-fusible double-throw switches with the installation of the proper bonding kit shown on **Page V2-T1-13**
- Suitable for use as a manually operated switch per 2005 NEC Article 702

- UL listed File No. E5239
- UL 98
- NEMA Std KS-1



Seismic Qualifications

- Heavy-duty switches exceed the requirements of Uniform Building Code (UBC) and California Code Title 24 OSP-0011-10, OSP-0012-10



