INSTRUMENT TRANSFORMERS

KOTD-110, -150, and -200

Outdoor station-post current transformers

KOTD current transformers are designed for high current metering and relaying in substation applications, and are available with a 4.0" or 5.0" diameter window opening or primary bar assembly with spade terminal.

Product features

- 15-34.5 kV, outdoor, 110-200 kV BIL, 60 Hertz
- Window diameter: 4.0"–5.0" (102 –127 mm)
- KOTD-110: 15 kV, 110 kV BIL
  - Strike: 10.0" (254 mm)
  - Creep: 18.0" (457 mm)
- KOTD-150: 25 kV, 150 BIL
  - Strike: 12.5" (317 mm)
  - Creep: 25.0" (642 mm)
- KOTD-200: 34.5 kV, 200 kV BIL
  - Strike: 15.0" (381 mm)
  - Creep: 36.9" (937 mm)

Application

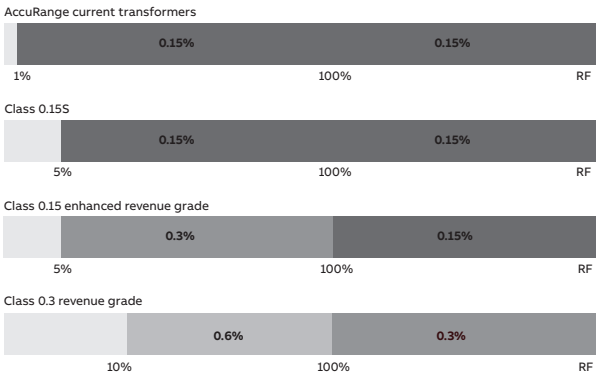
KOTD current transformers are designed for high current metering and relaying in substation applications, and are available with a 4.0" or 5.0" diameter window opening or primary bar assembly with spade terminal. They are available with one, two, three, or four cores for single, dual, or multi-ratio designs. Multi-ratio is only available in one and two core designs.

Construction features

The KOTD construction is a single cast polyurethane assembly with 4.0" or 5.0" diameter brass tube to prevent corona. The polyurethane supports its own weight in any orientation, but is not intended for supporting external bus work. The polyurethane is rated for ambient operating temperatures ranging from -30°C through +50°C.

High accuracy and extended range

Specialty KOTD transformers are also part of ABB's AccuRange® current transformer (CT) family and deliver high accuracy and stable performance over a wide load swing, making them a great fit for variable load applications. Accuracy is guaranteed to exceed the 0.15S class with +/-0.15% error from 1% of nominal current through the rating factor. ABB's extended range units deliver savings through improved accuracy metering and reduced inventory.



Terminals
Secondary terminals are bronze clamp-type, suitable for #14 through #1 AWG wire. Terminal screws are slotted, round-head type. For single core designs, a rotatable shorting bar is positioned on a center post located midway between the terminals. The center post also serves as a third terminal on dual ratio transformers.

Primary bars are electro-tin plated, sized for the maximum rated continuous current (primary current X rating factor), and have standard NEMA 4-hole pads for connection. The primary bar assembly consists of one, two, or three 0.5" tin-plated copper bars, depending on the current and rating factor of the CT. For bar kits that have more than one bar, spacing pads are recommended and available separately.

Shorting
A retained bronze pivoting short circuit device is an integral part of the KOTD secondary terminal arrangement. The CT will arrive with the short-circuiting device positioned between the two terminals where it touches and shorts the terminals in single, dual, and multi ratio arrangements. When rotated out of the shorted position, current will flow through the transformer. To ensure safety, this shorting device should remain in place until the CT is installed and ready to be energized.

Junction Box
The junction box has a 1" conduit hub on either end and a knockout for a 1" conduit fitting on the bottom. The box is anchored to the body of the transformer with screws and can be easily detached, simplifying installation and change-out procedures.

Inverted units require the weep holes in the junction box to be filled/covered to prevent water ingress.

Mounting
The base is constructed of 0.38" thick, 6061-T6 grade aluminum. The base is attached to a steel frame cast in the unit using stainless steel screws. Both the window and bar-type KOTD can be mounted in the upright, upside-down, and cantilever positions. In the case of cantilever mounting, the primary can be mounted vertically without support, or horizontally with the load supported independently.

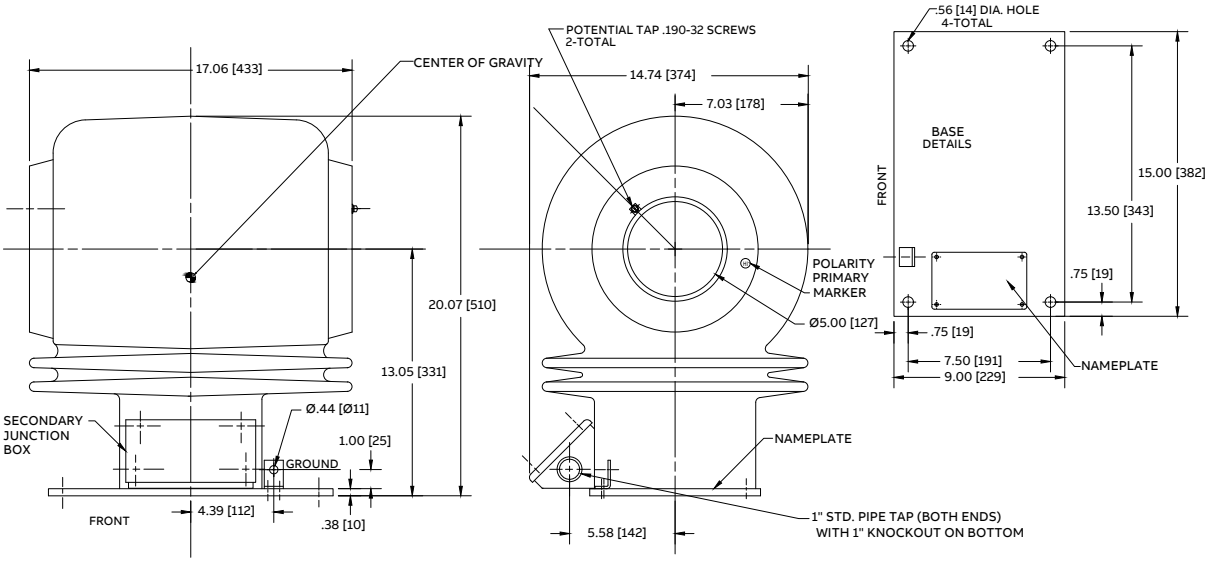
Test and compliance
Single and dual core designs meet or exceed all requirements of IEEE C57.13-2016, while three and four core designs are compliant with IEEE C57-13.1993. The KOTD can also be tested to other standards as requested. Full production test results are reported by unit serial number and are available upon request.

Options
- 4" window available upon request. (If bar kit is needed for 4" window, the bar(s) will be 4" wide as opposed to 5" wide.)
- Optional primary bar kits for field installation available separately.

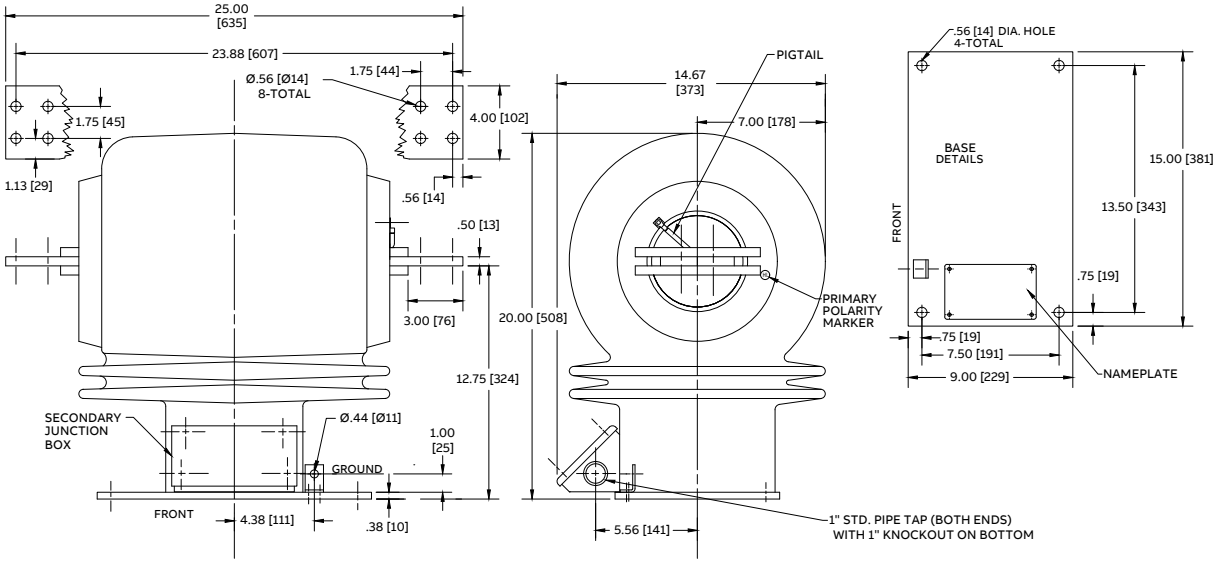
Contact your ABB representative for other special needs.

Dimensions KOTD-110 (in. [mm])

Window type



Bar type



KOTD-110	Approximate weight lbs. (kg)
Single ratio	225 (102)
Dual ratio	260 (118)

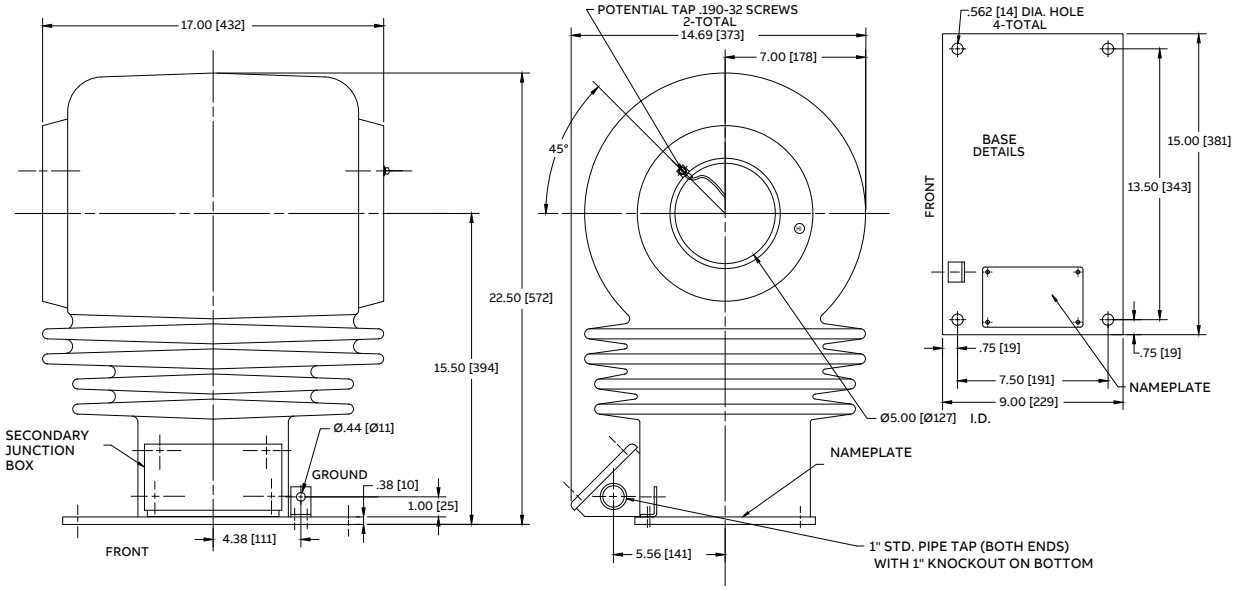
Bar type units add approximately 15 lbs. per bar

KOTD-110 selection guide

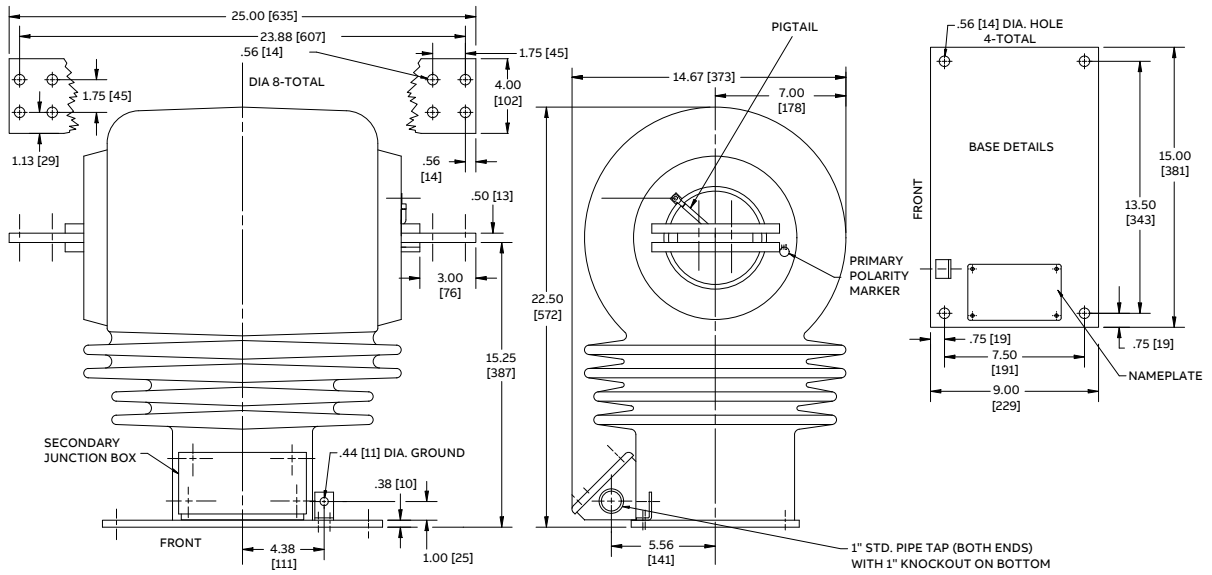
Primary ampere rating	Rating factor@ 30°C (window)	Rating factor@ 30°C (bar)	IEEE metering accuracy	Number of bars	IEEE relaying accuracy class	Style number	
						Window type	Bar type
Single ratio							
400	2.0	2.0	0.3B-0.5	1	C200	923A141G01	923A206G01
600	2.0	2.0	0.3B-0.9	1	C200	923A141G02	923A206G02
800	2.0	2.0	0.3B-1.8	1	C400	923A141G03	923A206G03
1000	2.0	2.0	0.3B-1.8	1	C400	923A141G04	923A206G04
1200	2.0	1.5	0.3B-1.8	1	C400	923A141G05	923A206G05
1600	2.0	1.25	0.3B-1.8	1	C400	923A141G06	923A206G06
2000	2.0	1.0	0.3B-1.8	1	C800	923A141G07	923A206G07
3000	1.5	1.33	0.3B-1.8	2	C800	923A141G08	923A206G08
4000	1.25	1.0	0.3B-1.8	2	C800	923A141G09	923A206G09
5000	1.0	1.0	0.3B-1.8	3	C800	923A141G10	923A206G10
Dual ratio							
200/400	2.0/2.0	2.0/2.0	0.6B-0.2/0.3B-0.5	1	C100/C200	923A142G01	923A148G01
300/600	2.0/2.0	2.0/2.0	0.3B-0.2/0.3B-0.9	1	C100/C200	923A142G02	923A148G02
400/800	2.0/2.0	2.0/2.0	0.3B-0.5/0.3B-1.8	1	C200/C400	923A142G03	923A148G03
500/1000	2.0/2.0	2.0/2.0	0.3B-0.5/0.3B-1.8	1	C200/C400	923A142G04	923A148G04
600/1200	2.0/2.0	2.0/1.50	0.3B-0.9/0.3B-1.8	1	C200/C400	923A142G05	923A148G05
800/1600	2.0/2.0	2.0/1.25	0.3B-0.9/0.3B-1.8	1	C200/C400	923A142G06	923A148G06
1000/2000	2.0/2.0	2.0/1.0	0.3B-1.8/0.3B-1.8	1	C400/C800	923A142G07	923A148G07
1500/3000	2.0/2.0	2.0/1.33	0.3B-1.8/0.3B-1.8	2	C400/C800	923A142G08	923A148G08
2000/4000	2.0/1.5	2.0/1.0	0.3B-1.8/0.3B-1.8	2	C400/C800	923A142G09	923A148G09
2500/5000	2.0/1.0	2.0/1.0	0.3B-1.8/0.3B-1.8	3	C400/C800	923A142G10	923A148G10
AccuRange® high accuracy and extended range (1%-Rating factor)							
600	4.0	4.0	0.15S-B1.8	2	-	923A141G39NC	923A206G39NC
1200	4.0	4.0	0.15S-B1.8	3	-	923A141G40NC	923A206G40NC

Dimensions KOTD-150 (in. [mm])

Window type



Bar type



KOTD-150	Approximate weight lbs. (kg)
Single ratio	245 (111)
Dual ratio	280 (127)

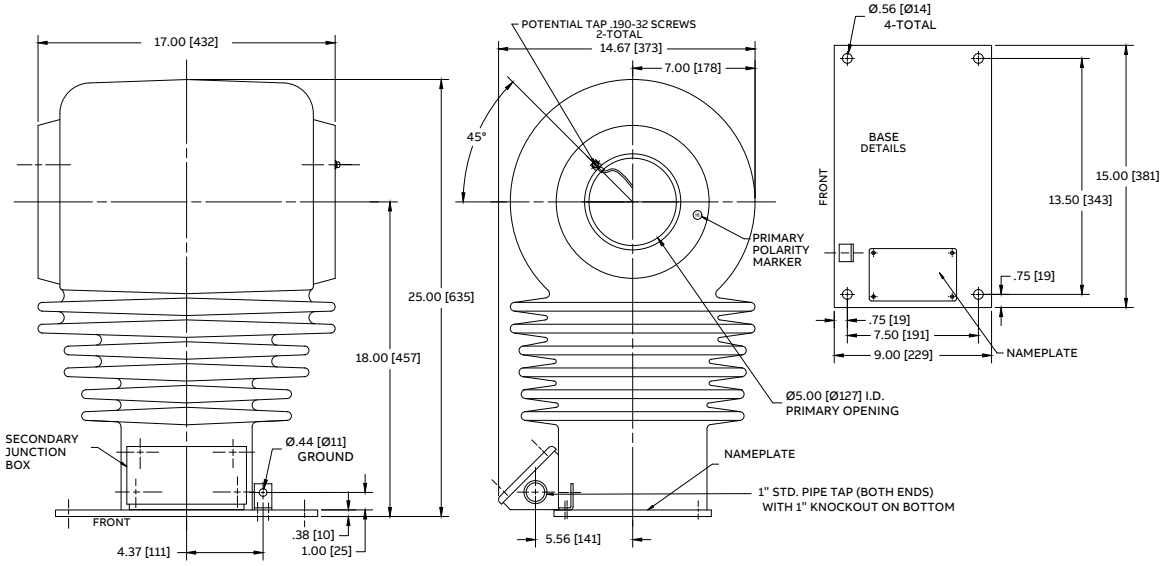
Bar type units add approximately 15 lbs. per bar

KOTD-150 selection guide

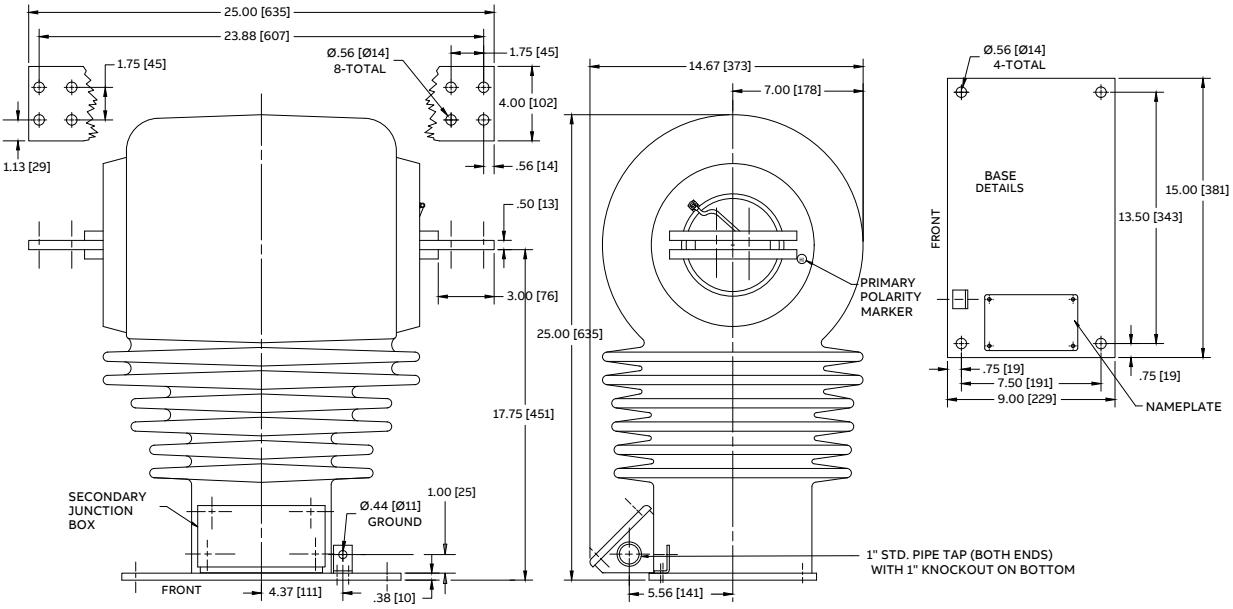
Primary ampere rating	Rating factor@ 30°C (window)	Rating factor@ 30°C (bar)	IEEE metering accuracy	Number of bars	IEEE relaying accuracy class	Style number	
						Window type	Bar type
Single ratio							
400	2.0	2.0	0.3B-0.5	1	C200	923A155G01	923A161G12
600	2.0	2.0	0.3B-0.9	1	C200	923A155G02	923A161G01
800	2.0	-	0.3B-1.8	1	C400	923A155G03	
1000	2.0	2.0	0.3B-1.8	1	C400	923A155G04	923A161G15
1200	2.0	1.5	0.3B-1.8	1	C400	923A155G05	923A161G02
1600	2.0	2.0	0.3B-1.8	1	C400	923A155G06	923A161G19
2000	2.0	1.0	0.3B-1.8	1	C800	923A155G07	923A161G03
3000	1.5	1.33	0.3B-1.8	2	C800	923A155G08	923A161G04
4000	1.25	1.0	0.3B-1.8	2	C800	923A155G09	923A161G05
5000	1.0	1.0	0.3B-1.8	3	C800	923A155G10	923A161G06
Dual ratio							
200/400	2.0/2.0	2.0/2.0	0.6B-0.2/0.3B-0.5	1	C100/C200	923A156G01	923A162G01
300/600	2.0/2.0	2.0/2.0	0.3B-0.2/0.3B-0.9	1	C100/C200	923A156G02	923A162G02
400/800	2.0/2.0	2.0/2.0	0.3B-0.5/0.3B-1.8	1	C200/C400	923A156G03	923A162G03
500/1000	2.0/2.0	2.0/2.0	0.3B-0.5/0.3B-1.8	1	C200/C400	923A156G04	923A162G04
600/1200	2.0/2.0	2.0/1.5	0.3B-0.9/0.3B-1.8	1	C200/C400	923A156G05	923A162G05
800/1600	2.0/2.0	2.0/1.25	0.3B-0.9/0.3B-1.8	1	C200/C400	923A156G06	923A162G06
1000/2000	2.0/2.0	2.0/1.0	0.3B-1.8/0.3B-1.8	1	C400/C800	923A156G07	923A162G07
1500/3000	2.0/2.0	2.0/1.33	0.3B-1.8/0.3B-1.8	2	C400/C800	923A156G08	923A162G08
2000/4000	2.0/1.5	2.0/1.0	0.3B-1.8/0.3B-1.8	2	C400/C800	923A156G09	923A162G09
2500/5000	2.0/1.0	2.0/1.0	0.3B-1.8/0.3B-1.8	3	C400/C800	923A156G10	923A162G10
AccuRange® high accuracy and extended range (1%-Rating factor)							
600	4.0	4.0	0.15S-B1.8	2	-	923A155G14NC	923A161G21NC
1200	4.0	4.0	0.15S-B1.8	3	-	923A155G15NC	923A161G22NC

Dimensions KOTD-200 (in. [mm])

Window type



Bar type



KOTD-200	Approximate weight lbs. (kg)
Single ratio	260 (118)
Dual ratio	300 (136)

Bar type units add approximately 15 lbs. per bar

KOTD-200 selection guide

Primary ampere rating	Rating factor@ 30°C (window)	Rating factor@ 30°C (bar)	IEEE metering accuracy	Number of bars	IEEE relaying accuracy class	Style number	
						Window type	Bar type
Single ratio							
400	2.0	2.0	0.3B-0.5	1	C200	923A203G01	923A175G01
600	2.0	2.0	0.3B-0.9	1	C200	923A203G02	923A175G02
800	2.0	2.0	0.3B-1.8	1	C400	923A203G03	923A175G03
1000	2.0	2.0	0.3B-1.8	1	C400	923A203G04	923A175G04
1200	1.5	1.5	0.3B-1.8	1	C400	923A203G05	923A175G05
1600	1.25	1.25	0.3B-1.8	1	C400	923A203G06	923A175G06
2000	1.0	1.0	0.3B-1.8	1	C800	923A203G07	923A175G07
3000	1.33	1.33	0.3B-1.8	2	C800	923A203G08	923A175G08
4000	1.0	1.0	0.3B-1.8	2	C800	923A203G09	923A175G09
5000	1.0	1.0	0.3B-1.8	3	C800	923A203G10	923A175G10
Dual ratio							
200/400	2.0/2.0	2.0/2.0	0.6B-0.2/0.3B-0.5	1	C100/C200	923A170G01	923A176G01
300/600	2.0/2.0	2.0/2.0	0.3B-0.2/0.3B-0.9	1	C100/C200	923A170G02	923A176G02
400/800	2.0/2.0	2.0/2.0	0.3B-0.5/0.3B-1.8	1	C200/C400	923A170G03	923A176G03
500/1000	2.0/2.0	2.0/2.0	0.3B-0.5/0.3B-1.8	1	C200/C400	923A170G04	923A176G04
600/1200	2.0/2.0	2.0/1.5	0.3B-0.9/0.3B-1.8	1	C200/C400	923A170G05	923A176G05
800/1600	2.0/2.0	2.0/1.25	0.3B-0.9/0.3B-1.8	1	C200/C400	923A170G06	923A176G06
1000/2000	2.0/2.0	2.0/1.0	0.3B-1.8/0.3B-1.8	1	C400/C800	923A170G07	923A176G07
1500/3000	2.0/2.0	2.0/1.33	0.3B-1.8/0.3B-1.8	2	C400/C800	923A170G08	923A176G08
2000/4000	2.0/1.5	2.0/1.0	0.3B-1.8/0.3B-1.8	2	C400/C800	923A170G09	923A176G09
2500/5000	2.0/1.0	2.0/1.0	0.3B-1.8/0.3B-1.8	3	C400/C800	923A170G10	923A176G10
AccuRange® high accuracy and extended range (1%-Rating factor)							
600	4.0	4.0	0.15S-B1.8	2	-	923A203G32NC	923A175G44NC
1200	4.0	4.0	0.15S-B1.8	3	-	923A203G33NC	923A175G45NC

ABB Inc.
3022 NC 43 North
Pinetops, NC 27864
Phone: +1-252-827-3212

abb.com/mediumvoltage

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