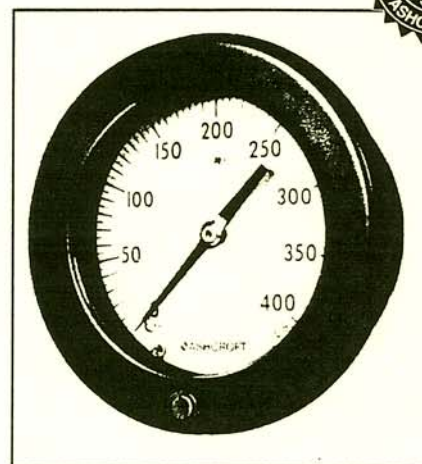


ASHCROFT®

Grade 2A ($\pm 0.5\%$) Duragauge® Pressure Gauge Type 1377

- Type 1377 Duragauge® pressure gauge (4-1/2", 6", or 8-1/2" dial sizes).
- Standard stainless steel rotary geared movement.
- Easily adjustable, self locking micrometer pointer.
- 100 standard psi and metric ranges, 5 standard systems.

Designed for flush mounting, this solid front gauge is ideal for panel board applications. Its black epoxy coating and its tough aluminum weather-proof case easily allows application in a variety of climatic conditions.



BOURDON SYSTEM SELECTION

Ordering Code	Bourdon Tube & Tip Material ⁽¹⁾ (all joints TIG welded except "A") ⁽¹⁾	Socket Material	Tube Type	Range Selection Limits (psi)	NPT Conn. ⁽²⁾
A	Grade A Phosphor Bronze Tube-Brass Tip, Silver Brazed	Brass	Drawn C-Tube	12/1,000	1/2
B	AISI 4130 alloy steel	AISI 1019 steel	Drawn C-Tube	15/1,500 ⁽⁴⁾	1/2
			Drawn Helical	2,000/5,000 ⁽⁴⁾	1/2
R	AISI 316 stainless steel	AISI 1019 steel	Drawn C-Tube	12/1,500 ⁽⁵⁾	1/2
			Drawn Helical	2,000/20,000 ⁽⁵⁾	1/2
S	AISI 316 stainless steel	AISI 316 stainless steel	Drawn C-Tube	12/1,500	1/2
			Drawn Helical	2,000/20,000	1/2
P ⁽³⁾	K Monel	Monel 400	Drawn C-Tube	15/1,500 ⁽⁶⁾	1/2
			Drawn Helical	2,000/30,000 ⁽⁶⁾	1/2

- (1) For selection of the correct Bourdon system material, see the media application table on page 136.
 (2) Optional connections available: 1/4 NPT where 1/2 NPT is standard.
 (3) Use for applications where NACE standard MR-01-75 is specified.
 (4) "B" Bourdon system not available in 8-1/2" Dial size.
 (5) "R" Bourdon system not available in 8-1/2" Dial size.
 (6) "P" Bourdon system not available in 8-1/2" Dial size.

STANDARD RANGES

Pressure psi	Compound psi
0/15	30" Hg/15psi
0/30	30" Hg/30psi
0/60	30" Hg/60psi
0/100	30" Hg/100psi
0/160	30" Hg/150psi
0/200	30" Hg/300psi
0/300	
0/400	
0/600	
0/800	
0/1,000	
0/1,500	
0/2,000	
0/3,000	
0/5,000	
0/10,000	
0/20,000	
0/30,000	

NOTE:
Equivalent standard
kg/cm², and kPa metric
ranges are available.

TO ORDER THIS 1377 DURAGAUGE:

Select: _____ 45 _____ 1377 _____ AS* _____ 02B _____ XXX _____ 0/600psi

1. Dial size - 4 1/2", 6", or 8-1/2" _____

2. Case type - 1377 _____
Ring - Threaded reinforced polypropylene

3* Bourdon system selection ordering code _____

4. Connection - 1/4 NPT (02), 1/2 NPT (04), Lower (L), Back(B) _____

5. Optional features - See page 81 _____

6. Standard pressure range - _____

7. Accessories - See page 130-135 _____

(*) "S" denotes solid front case design

DURAGAUGE®

Pressure Gauge

Gauge Accuracy

Duragauge gauges are made in accordance with ANSI B40.1 (Gauges, Pressure and Vacuum, Indicating Dial Type — elastic element), Accuracy Grade 2A ($\pm 0.5\%$ of span). Because of hysteresis, the accuracy of gauges over 20,000 psi, through 100,000 psi, is 1 to 2% depending on range and Bourdon tube material. The accuracy of a retard range gauge applies only to the expanded portion of the scale. The error in the compressed portion is -10 to +20% of the span.

Maximum pressure at which a gauge is continually operated should not exceed 75% of full scale range.

To Order a Gauge:

Select:

1. Case type number — Table A
2. Dial size — Table A
3. Bourdon System (*) (ordering code) — Table B

4. Connection: Location — Table A; Size — Table B
5. Mounting accessory or variation (if required) — Table A
6. Pressure Range — page 9
7. Accessories and optional features — pages 12-17

Example:

1279(*)S 4½" S
phenol-solid front 4½" AISI 316 st. st. system

Back ½" NPT w/1278M Ring 0/2000 psi
Back Conn. ½" NPT with 1278 Ring 0/2000 psi

TABLE A — CASE SELECTION

Case Type Number	Dial Size — in.	Case Style	Case: Material Finish	Style Ring: Material Finish	Mounting and Connection
1279(*)S**	4½"	Solid Front	Phenol Black	Threaded Reinforced Polypropylene Black	Stem — Lower or Back Surface — Lower or Back Flush — Back: order 1278M ring. (see page 16)
1377(*)S	4½", 6, 8½"	Solid Front	Aluminum Black epoxy coated	Hinged Steel Black wrinkle enamel coated	Flush — Back connection only
1379(*)S**	4½", 6, 8½"	Solid Front	Aluminum Black epoxy coated	Threaded Reinforced Polypropylene: 4½", 6" Hinged Steel, Black wrinkle enamel coated: 8½"	Stem — Lower or Back Surface — Lower or Back Flush — Back: 8½" std. 4½", 6" — order 1278M ring (See page 16)
2462(*)S	6	Solid Front	Polypropylene (fiberglass reinforced) Black	Bayonet Lock Polypropylene Black	Stem — Lower or Back Surface — Lower or Back: Specify XBF Flush — Back: Specify XBQ

(*) Bourdon tube ordering code. ** Available Liquid Filled or Hermetically Sealed — see page 17

TABLE B — BOURDON SYSTEM SELECTION⁽¹⁾

Ordering Code	Bourdon Tube and Tip Material (all joints TIG welded except "A")	Socket Material	Tube Type	Range Selection Limits (psi)	NPT Connection ⁽²⁾
A	Grade A Phosphor Bronze Tube — Brass Tip, Silver Brazed	Brass	C-Tube	12/1000	½
B	AISI 4130 alloy steel	AISI 1019 steel	C-Tube	15/1500	
			Helical	2000/5000	
D	AISI 4130 alloy steel	AISI 316 stainless steel	Spiral	100,000 ⁽³⁾	¼ high pressure (lower conn. only)
R	AISI 316 stainless steel	AISI 1019 steel	C-Tube	12/1500	½
			Helical	2000/20,000	
S	AISI 316 stainless steel	AISI 316 stainless steel	C-Tube	12/1500	
			Helical	2000/20,000	
TA	AISI 316 stainless steel	AISI 316 stainless steel	Spiral	50,000	¼ high pressure
WW	INCONEL 718	INCONEL	Spiral	80,000	¼ high pressure
P ⁽⁴⁾	K Monel	Monel 400	C-Tube	15/1500	½
			Helical	2000/30,000	

(1) For selection of the correct Bourdon system material, see the media application table on page 10.

(2) Optional connections available: ¼ NPT where ½ is standard.

(3) 30,000-80,000 psi only in 6" lower and back Type 1379 solid front cases. 100,000 psi available in 6" lower connection only Type 1379 solid front case.

(4) Use for applications where NACE standard MR-01-75 is specified.

TABLE C
Standard PSI Ranges

pressure (psi)		
total graduation	figure interval	minor graduation
0/15	1	0.1
0/30	5	0.2
0/60	5	0.5
0/100	10	1
0/160	20	1
0/200	20	2
0/300	50	2
0/400	50	5
0/600	50	5
0/800	100	10
0/1000	100	10
0/1500	200	10
0/2000	200	20
0/3000	500	20
0/5000	500	50
0/10,000	1000	100
0/20,000	2000	200
0/30,000	5000	200
0/50,000	5000	500
0/80,000	10,000	1000
0/100,000	10,000	1000

compound

range	figure interval		minor graduation	
	inches mercury	psi	inches mercury	psi
30" Hg/0/ 15 psi	5	3	0.5	0.2
30" Hg/0/ 30 psi	10	5	1	0.5
30" Hg/0/ 60 psi	10	10	1	1
30" Hg/0/100 psi	10	10	2	1
30" Hg/0/150 psi	10	20	5	2
30" Hg/0/300 psi	30	25	5	2

combination

range		figure interval		minor graduation	
inner scale psi	outer scale feet water	psi	feet water	psi	feet water
0/15	0/34	3	5	0.5	0.5
0/30	0/70	5	10	0.5	1
0/60	0/140	5	20	0.5	5
0/100	0/230	10	20	1	2
0/160	0/370	20	50	2	5
0/200	0/460	20	50	5	5
0/300	0/690	25	100	5	10

vacuum

total graduation	figure interval	minor graduation
30/0 inches Mercury	5 inches	0.2 inch
34/0 feet Water	5 feet	0.5 foot

retard

total graduation	figure interval	minor graduation
0/15 psi retard to 30 psi	1 psi 30 psi	0.1 psi 5 psi
0/30 psi retard to 60 psi	2 psi 60 psi	0.2 psi 10 psi
0/60 psi retard to 100 psi	5 psi 100 psi	0.5 psi 10 psi
30" Hg vac/75 psi retard to 150 psi	5" Hg/15 psi 150 psi	1" Hg/1 psi 5 psi
10" Hg vac/5 psi retard to 30" Hg Vac retard to 30 psi	2" Hg/1 psi 30" Hg 30 psi	0.2" Hg/0.1 psi 5" Hg 5 psi

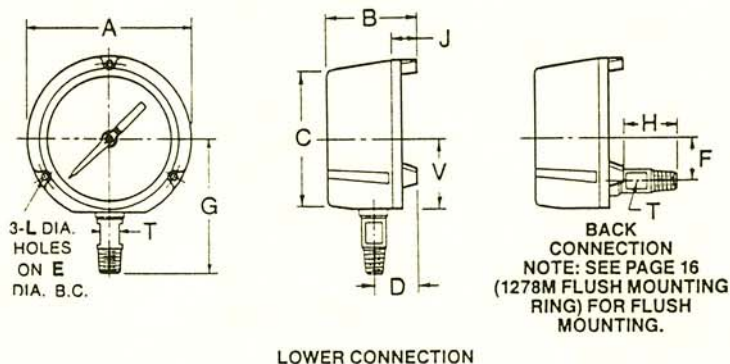
DIAL ARC = 270°, except ranges over 20,000 psi are supplied with 210° dial arc.

Standard Metric Ranges

RANGE		DIAL GRADUATIONS		RANGE	DIAL GRADUATIONS		Outer scale when dual range specified psi
kg/cm² (Kilograms per sq. cm.)	bar	figure interval	minor graduation	kPa (kilopascal)	figure interval	minor graduation	
pressure							
0/1	0/1	0.1	0.01	0/100	10	1	0/14
0/1.6	0/1.6	0.2	0.02	0/160	20	2	0/22
0/2.5	0/2.5	0.5	0.02	0/250	50	2	0/35
0/4	0/4	0.5	0.05	0/400	50	5	0/55
0/6	0/6	0.5	0.05	0/600	50	5	0/85
0/10	0/10	1	0.1	0/1000	100	10	0/140
0/16	0/16	2	0.2	0/1600	200	20	0/220
0/25	0/25	5	0.2	0/2500	500	20	0/350
0/40	0/40	5	0.5	0/4000	500	50	0/550
0/60	0/60	5	0.5	0/6000	500	50	0/850
0/100	0/100	10	1	0/10 000	1000	100	0/1400
0/160	0/160	20	2	0/16 000	2000	200	0/2200
0/250	0/250	50	2	0/25 000	5000	200	0/3500
0/400	0/400	50	5	0/40 000	5000	500	0/5500
0/600	0/600	50	5	0/60 000	5000	500	0/8500
0/1000	0/1000	100	10	0/100 000	10 000	1000	0/14 000
0/1600	0/1600	200	20	0/160 000	20 000	2000	0/22 000
0/2500	0/2500	500	20	0/250 000	50 000	2000	0/35 000
0/4000	0/4000	500	50	0/400 000	50 000	5000	0/55 000
0/6000	0/6000	1000	50	0/600 000	100 000	10 000	0/85 000
compound							
-1/0/1.5	-1/0/1.5	0.5	0.02	-100/0/150	50	5	30" Hg/0/20
-1/0/3	-1/0/3	0.5	0.05	-100/0/300	50	5	30" Hg/0/40
-1/0/5	-1/0/5	0.5	0.05	-100/0/500	50	10	30" Hg/0/70
-1/0/9	-1/0/9	1	0.1	-100/0/900	100	10	30" Hg/0/125
-1/0/15	-1/0/15	2	0.2	-100/0/1500	200	20	30" Hg/0/215
-1/0/24	-1/0/24	5	0.2	-100/0/2400	500	20	30" Hg/0/340
vacuum							
-1/0	-1/0	0.1	0.01	-100/0	10	1	30" Hg

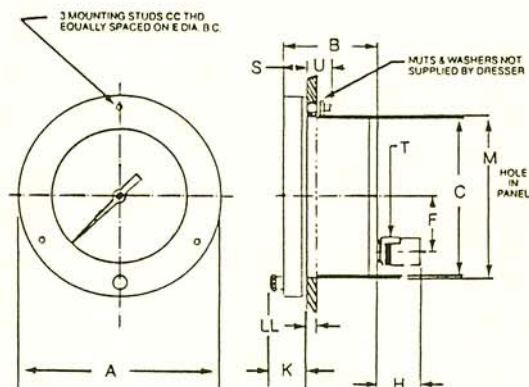
Gauge Case Dimensions

CASE TYPE 1279(*)S



Dial Size Inches	A	B	C	D	E	F	G	H	J	L	T	V	Weight (lbs.)
4 1/2	5 1/4 (148)	3 3/8 (86)	5 1/4 (129)	1 3/8 (41)	5 3/8 (137)	1 3/8 (41)	3 15/16 (100)	3/4 (19)	1 (25)	.218	3/8 (16)	2 3/4 (67)	2 1/2

CASE TYPE 1377(*)S



Dial Size Inches	A	B	C	E	F	H	K	M	S	T	U	CC	LL	Weight (lbs.)
4 1/2	6 3/32 (154)			5 3/8 (137)				4 7/8 (124)				#10-24		2 3/4
6	7 9/16 (192)	2 7/8 (73)	4 3/4 (121)	7 (178)	1 5/8 (41)	1 3/8 (35)	1 1/16 (27)	6 1/2 (165)	5/8 (16)	5/8 (16)	3/4 (19)	1/4-20	1/8 to 1/2 (3) (13)	3
8 1/2	10 1/16 (257)			9 5/8 (244)				9 (229)				1/4-20		4 1/2

*Bronze, AISI 4130, AISI 316 tubes to 20,000 psi inclusive. K-monel tubes to 30,000 psi inclusive.

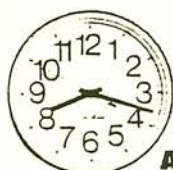
Note: Dimensions in Brackets () are millimeters.

Electric & Message Clocks

- Black numerals and sweep second hand or digital display
- Dials are designed for maximum visibility
- Electric clocks work on 115 VAC 60 Hz

- Suitable for either indoor or outdoor use in any climate
- Steel case or plastic case
- Cases are available in various finishes

Electric Clocks



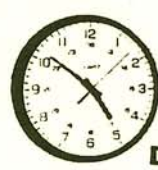
A



B



C



D

A COMMERCIAL CLOCKS—Slim profile with white convex dial and unbreakable plastic lens. Bottom set-shaft. Large numerals for high visibility. Available with a plastic or steel case in bronze or beige finish. For indoor use only.

Overall Diameter	Dial Diameter	Case Finish	No.	NET EACH
STEEL CASE				
14 1/4"	12"	Bronze	1291T3	\$34.35
PLASTIC CASE				
9 1/2"	8"	Beige	1291T5	23.59
14"	12"	Beige	1291T6	25.25

B BIG DIAL CLOCKS—Easy-to-read clocks feature a white dial and steel or metal case with protective glass lens. Available in indoor and outdoor models.

Indoor Models—Use in offices, factories, public buildings, and schools. Durable steel case is available in chrome plated or tan finish.			
Dial Diameter	Chrome Plated	Tan	
	No.	No.	NET EACH
15"	8466T12	8466T16	\$51.22
18"	8466T14	8466T18	\$51.82
			64.43

All-Weather Models—Suitable for any outdoor area. Tough metal case has a tan finish.

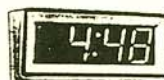
Dial Diameter	No.	NET EACH
12"	1339T1	\$48.75
15"	1339T2	\$7.75

C CEILING HUNG DOUBLE FACE CLOCKS—Double dial indoor clocks are visible from both directions. Ideal for corridors and hallways. Feature a white dial, tan plastic or gray steel case, and clear glass lens.

Completely assembled with mounting bracket and one adjustable 5/8" rod for plastic case and direct mounting to steel case.					
Plastic			Steel		
Dial	No.	NET EACH	Dial	No.	NET EACH
14"	8462T12	\$127.50	12"	8462T21	\$232.73
			15"	8462T22	276.36

D 12/24 HOUR CLOCK—Easy-to-read clock has standard 12 hour black numbered dial plus inner ring of numerals from 13 to 24 in red to indicate 24 hour time. White dial is 12" in diameter. Brown plastic case and clear plastic lens. Overall size: 13" Dia. x 2 1/2" D. No. 9454T15. NET EACH \$32.20

Electric Digital Clocks



1



2

6 Digit

1 12/24 HOUR 2 1/2" DIGITAL WALL CLOCK—Large LED display and sloping face for visibility 100 feet away. Has switch for selection of 12 or 24 hour time. PM indicator in 12 hour mode. Colon flashes to indicate seconds. Beige color with clear plastic lens. Size: 5" high x 11" wide x 2 1/2" deep. For 110 VAC, 60 Hz. Hangs on wall or clock outlet. Furnished with quartz time base that will provide time memory for the clock during power failure for 24 hours; uses 9-volt battery, sold below.

No. 9456T13	NET EACH \$103.26
No. 1057T6—9-V Battery	NET EACH .97

2 BIG 5" DIGITAL TIME DISPLAYS—Solid state controlled display lighted by miniature lamps is readable up to 250 feet away. Ideal for use in airports, office complexes, and schools. With clear plastic lens, 8-foot cord, and 3-pin plug for 120 VAC. Units can be surface mounted, recess mounted, and ceiling hung. Ceiling mount hardware included. 4 digit is 9 3/8" H x 25 1/8" W x 4 1/4" D. 6 digit is 9 3/8" H x 35 1/8" W x 4 1/4" D. Double face. 4 digit measures 9 3/8" H x 25 1/8" W x 9 1/2" D. 6 digit measures 9 3/8" H x 35 1/8" W x 9 1/2" D.

Digits	Display	No.	NET EACH
12 HOUR SINGLE FACE			
4	Hours, minutes	9404T21	\$481.98
6	Hours, minutes, seconds	9404T22	647.60
24 HOUR SINGLE FACE			
4	Hours, minutes	9457T31	490.08
6	Hours, minutes, seconds	9457T32	658.49
12 HOUR DOUBLE FACE			
4	Hours, minutes	9453T21	941.45
6	Hours, minutes, seconds	9453T22	1264.60
24 HOUR DOUBLE FACE			
4	Hours, minutes	9452T31	956.89
6	Hours, minutes, seconds	9452T32	1285.33

Electric and Quartz Safety Message Clocks



No Smoking Symbol



No Smoking Symbol and Message



Think Safety Message

Large dial clocks remind employees of safety and good working habits. Use in aisles, offices, warehouses, and machine shops. Accurate to ± 1 minute per year. Have red symbols and messages. Electric clocks have 110 VAC movement. Quartz clocks use AA batteries (sold on page 639). Metal case with black finish and clear glass lens. Other messages are available (minimum of 12 clocks). Prices on request.

Description	12" Dia. No.	15" Dia. No.	18" Dia. No.
ELECTRICAL CLOCKS			
No Smoking symbol	1202T13	1202T11	1202T12
No Smoking symbol and No Smoking message	1202T23	1202T21	1202T22
Think Safety message	1202T33	1202T31	1202T32
Safety First message	1202T43	1202T41	1202T42
Time is Money message	1202T53	1202T51	1202T52
NET EACH	\$40.74	\$62.26	\$82.82
BATTERY POWERED QUARTZ CLOCKS			
No Smoking symbol	1310T11	1310T14	1310T15
No Smoking symbol and No Smoking message	1310T21	1310T24	1310T25
Think Safety message	1310T31	1310T34	1310T35
Safety First message	1310T41	1310T44	1310T45
Time is Money message	1310T51	1310T54	1310T55
NET EACH	\$44.15	\$65.96	\$79.79

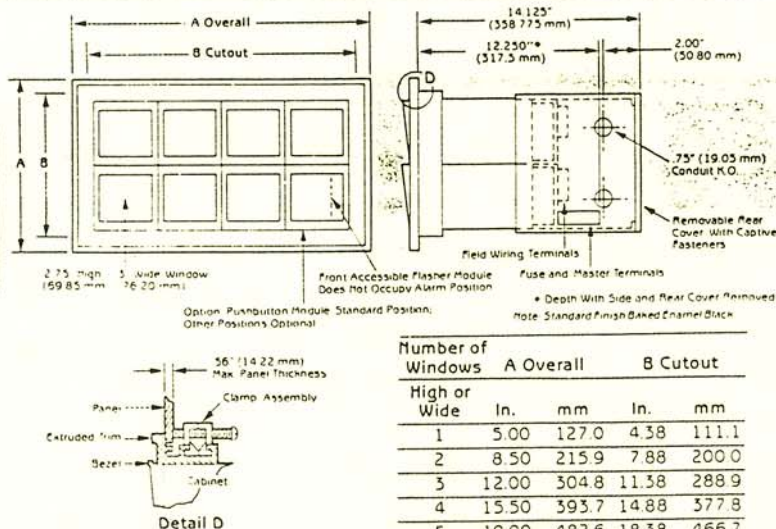
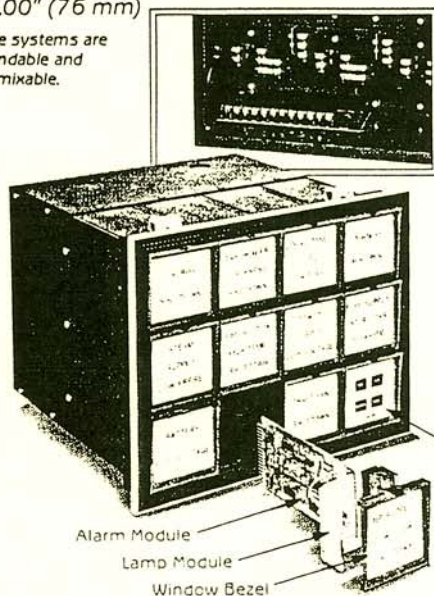
McMASTER-CARR

MONALARM SERIES

Model X11-1000

Flushmounting Type for Control Panels
Nameplate Size 2.75" (70 mm)
× 3.00" (76 mm)

These systems are
expandable and
intermixable.



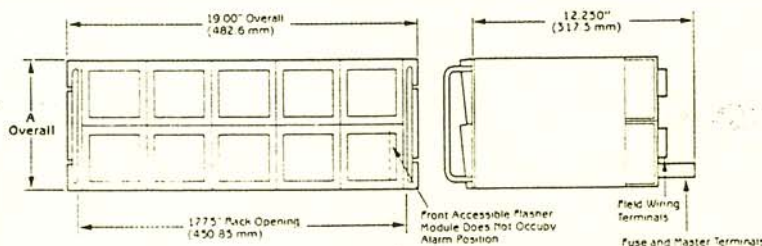
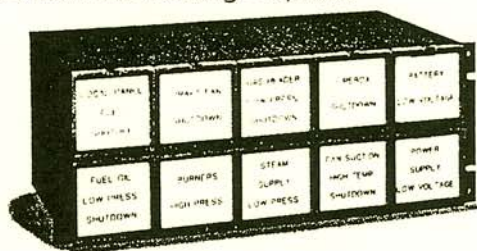
*Pushbutton Stations

The integral Pushbutton Station shown is available as an option and may occupy any position in the system. Pushbutton stations will operate in conjunction with externally wired pushbuttons. The lower, right hand position also houses the Flasher/Horn Driver Module.

Number of Windows	A Overall		B Cutout	
	High or Wide	In.	mm	In.
1	5.00	127.0	4.38	111.1
2	8.50	215.9	7.88	200.0
3	12.00	304.8	11.38	288.9
4	15.50	393.7	14.88	377.8
5	19.00	482.6	18.38	466.7
6	22.50	571.5	21.88	555.6
7	26.00	660.4	25.38	644.5
8	29.50	749.3	28.88	733.4
9	33.00	838.2	32.50	825.5
10	36.50	927.1	36.00	914.4
11	40.00	1016.0	39.50	1003.3
12	43.50	1104.9	43.00	1092.2

Model X11RR-1000

Relay Rack Mounting Type
19 Inch Rack Mounting – Standard
24 Inch Rack Mounting – Optional



*Not limited to 4 high

**Limited to 5 wide only (19 inch, 483mm rack)
Also available 6 wide (24 inch, 610 mm rack)

Number of Windows	A Overall	
	High	Wide
1	5**	3.5
2	5	7.0
3	5	10.5
4*	5	14.0

Series X11-1000

Rear Terminal Arrangement and Wiring Information

