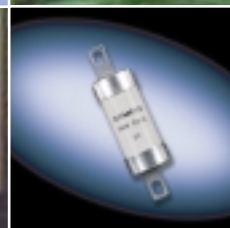
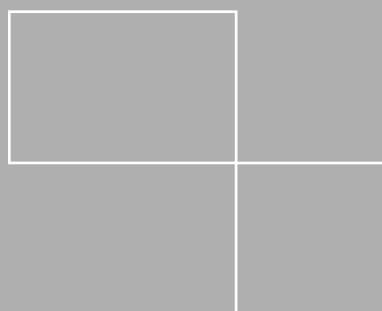


Complete protection made easy



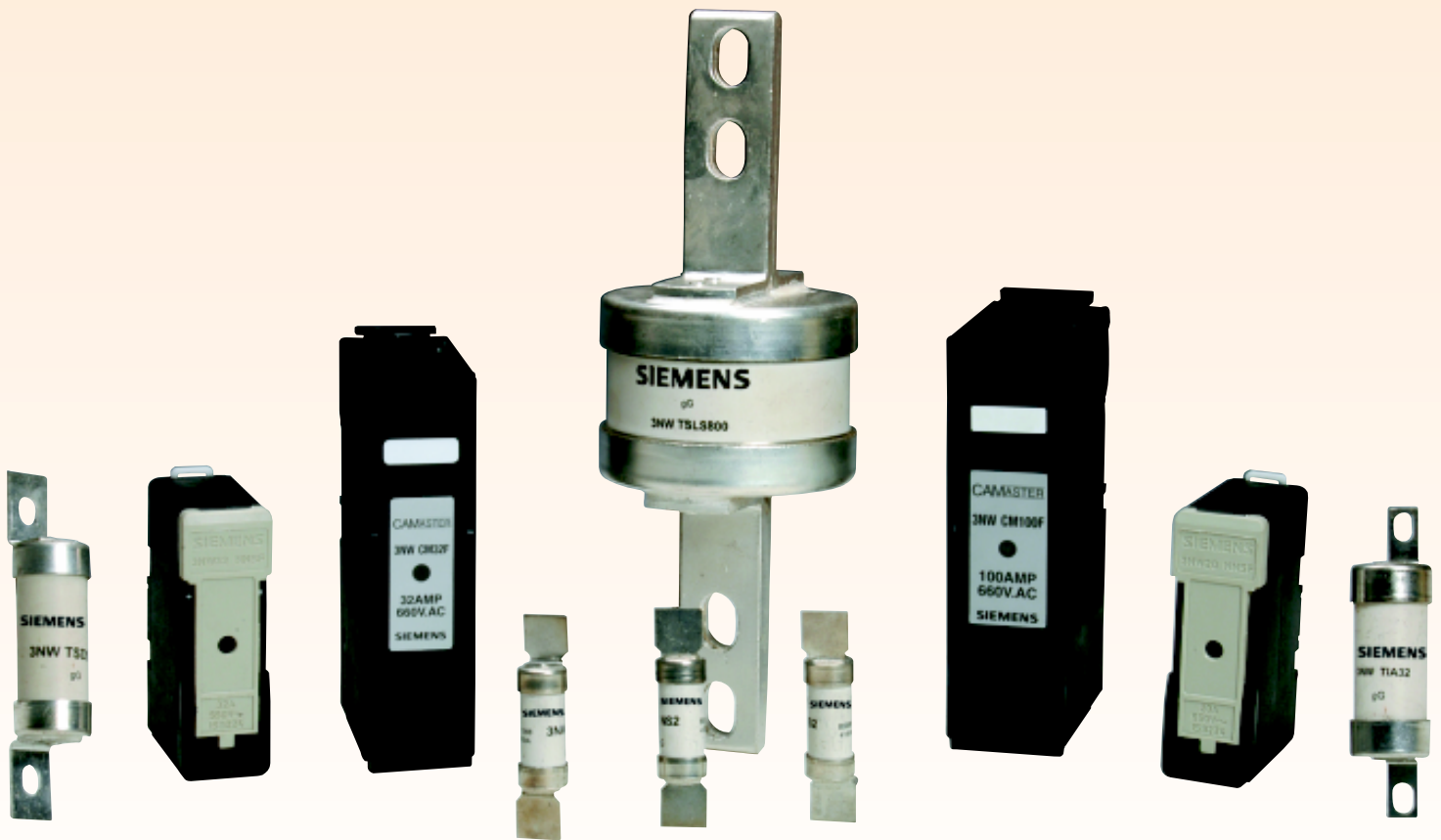
# hrc fuses

## BS TYPE



**SIEMENS**





## General

Siemens low voltage HRC fuses of BS type have been developed for industrial applications. Due to the special design, they provide high rupturing capacity combined with low temperature rise under normal load conditions. The quick acting characteristics of the fuses ensure that under the worst fault conditions, cut off occurs before the peak value of fault current is reached. This ultimately reduces the electromagnetic stress and fire risk, thus avoiding premature failure of the downstream equipment.

## Construction

The fuse links consist of one or more elements contained in ceramic barrel of exceptional strength and filled by carefully graded, chemically purified silica quartz sand. The end of cartridges are closed by electro-tinned/ silver

plated end caps which are forced on to the ground barrel under pressure, thus entirely eliminating the use of cement with its attendant disadvantages.

The fuse elements are made of pure copper/ silver composite type and manufactured to very close tolerance to ensure that the characteristics of the fuses are consistent. All fuse links are manufactured under strict quality control and tested as per relevant standards.

## Applications

The fuses are ideally suited for general industrial applications as well as protection of lighting and heating circuits.



## Short Data Description

### BS Fuses - Type 3NW

Rated Voltage	:	415V AC, 240V DC
Rated Current	:	2A to 800A
Rated short circuit breaking capacity	:	80kA (AC), 40kA (DC)
Utilization Category	:	gG
Fusing Factor	:	1.6
Fuse fixing arrangement	:	Blade Tag, Offset Tag, Centre Tag
Relevant Standards	:	IS13703-2 (1993), BS 88 Part 1 & 2 (1988), IEC 60269 –2-1(1987)

## Selection and Ordering Data

Type	Rated Current (A)	Type Reference	Suitable Fuse Holder	Suitable Switch Disconnecter Fuse Unit
Blade Tag	2	3NW NS2	3NW 20/ 32NNSF	----
	4	3NW NS4		----
	6	3NW NS6		----
	10	3NW NS10		----
	16	3NW NS16		----
	20	3NW NS20		----
	25	3NW NS25	3NW 32NNSF	----
32	3NW NS32	----		
Offset Tag	2	3NW TIA2	3NW CM32F	3KL47/49/50.. 1YJ00
	4	3NW TIA4		
	6	3NW TIA6		
	10	3NW TIA10		
	16	3NW TIA16		
	20	3NW TIA20		
	25	3NW TIA25		
32	3NW TIA32			
Offset Tag	6	3NW TSA6	3NW CM32F	3KL47/49/50.. 1YJ00
	10	3NW TSA10		
	16	3NW TSA16		
	20	3NW TSA20		
	25	3NW TSA25		
32	3NW TSA32			
Offset Tag	40	3NW TIS40	3NW CM63F	3KL49/50.. 1YJ00
	50	3NW TIS50		
	63	3NW TIS63	3NW CM63F	3KL50..1YJ00
Offset Tag	36	3NW TSS36	3NW CM63F	3KL49/50.. 1YJ00
	40	3NW TSS40		
	50	3NW TSS50		
	63	3NW TSS63		
Offset Tag	80	3NW TCP80	—	—
	100	3NW TCP100	—	—
Offset Tag	80	3NW TSDS80	3NW CM100F	—
	100	3NW TSDS100	3NW CM100F	—
Offset Tag	125	3NW TSFP125	—	—
	160	3NW TSFP160	—	—
	200	3NW TSFP200	—	—
Offset Tag	125	3NW TFP125	—	—
	160	3NW TFP160	—	—
	200	3NW TFP200	—	—

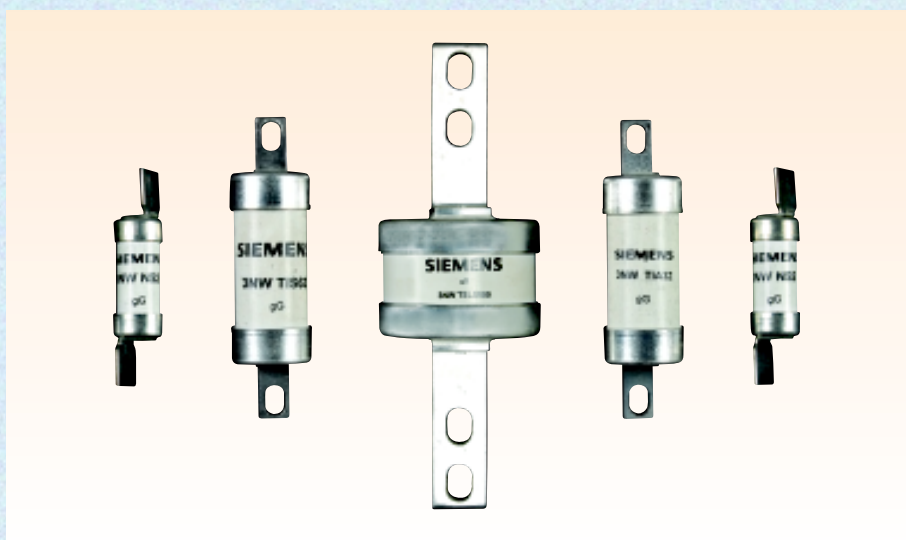
Type	Rated Current (A)	Type Reference	Suitable Fuse Holder	Suitable Switch Disconnecter Fuse Unit
Centre Tag	80	3NW TSDC80	—	—
	100	3NW TSDC100	—	—
Centre Tag	80	3NW TC80	—	—
	100	3NW TC100	—	—
Centre Tag	125	3NW TF125	—	—
	160	3NW TF160	—	—
	200	3NW TF200	—	—
Centre Tag	160	3NW TSF160	—	—
	200	3NW TSF200	—	—
Centre Tag	250	3NW TKF250	—	—
	315	3NW TKF315	—	—
Centre Tag	250	3NW TSK250	—	—
	315	3NW TSK315	—	—
Centre Tag	355	3NW TSMS355	—	—
	400	3NW TSMS400	—	—
Centre Tag	355	3NW TMF355	—	—
	400	3NW TMF400	—	—
Centre Tag	450	3NW TSTS450	—	—
	500	3NW TSTS500	—	—
Centre Tag	500	3NW TTM500	—	—
	630	3NW TTM630	—	—
Centre Tag	560	3NW TSL560	—	3KL81..1YJ00
	630	3NW TSL630	—	
	800	3NW TSL800	—	
Centre Tag	710	3NW TLM710	—	—
	800	3NW TLM800	—	—



## Power Dissipation Chart

Type	Rated Current (A)	Type Reference	Rated Power Dissipation (Watts)
Blade Tag	2	3NW NS2	0.9
	4	3NW NS4	1.4
	6	3NW NS6	1.8
	10	3NW NS10	2.1
	16	3NW NS16	1.8
	20	3NW NS20	1.8
	25	3NW NS25	2.0
	32	3NW NS32	2.9
Offset Tag	2	3NW TIA2	1.5
	4	3NW TIA4	2.7
	6	3NW TIA6	3.3
	10	3NW TIA10	2.8
	16	3NW TIA16	3.3
	20	3NW TIA20	3.1
	25	3NW TIA25	3.6
	32	3NW TIA32	3.8
Offset Tag	6	3NW TSA6	1.8
	10	3NW TSA10	2.1
	16	3NW TSA16	1.8
	20	3NW TSA20	1.8
	25	3NW TSA25	2.0
	32	3NW TSA32	2.9
Offset Tag	40	3NW TIS40	4.7
	50	3NW TIS50	4.9
	63	3NW TIS63	5.6
Offset Tag	36	3NW TSS36	4.4
	40	3NW TSS40	4.7
	50	3NW TSS50	4.9
	63	3NW TSS63	5.6
Offset Tag	80	3NW TCP80	7.2
	100	3NW TCP100	8.2
Offset Tag	80	3NW TSDS80	7.2
	100	3NW TSDS100	8.5
Offset Tag	125	3NW TSP125	11.0
	160	3NW TSP160	13.0
	200	3NW TSP200	14.0
Offset Tag	125	3NW TFP125	10.0
	160	3NW TFP160	13.9
	200	3NW TFP200	16.0

Type	Rated Current (A)	Type Reference	Rated Power Dissipation (Watts)
Centre Tag	80	3NW TSDC80	7.2
	100	3NW TSDC100	8.5
Centre Tag	80	3NW TC80	7.2
	100	3NW TC100	8.2
Centre Tag	125	3NW TF125	10.0
	160	3NW TF160	13.0
	200	3NW TF200	16.0
Centre Tag	125	3NWTSF125	11.0
	160	3NW TSF160	13.0
	200	3NW TSF200	14.0
Centre Tag	250	3NW TKF250	19.0
	315	3NW TKF315	25.0
Centre Tag	250	3NW TSK250	18.0
	315	3NW TSK315	22.0
Centre Tag	355	3NW TSMS355	24.0
	400	3NW TSMS400	29.0
Centre Tag	355	3NW TMF355	24.0
	400	3NW TMF400	29.0
Centre Tag	450	3NW TSTS450	31.0
	500	3NW TSTS500	39.0
Centre Tag	500	3NW TTM500	38.0
	630	3NW TTM630	50.0
Centre Tag	560	3NW TSL560	38.0
	630	3NW TSL630	44.0
	800	3NW TSL800	68.0
Centre Tag	710	3NW TLM710	53.0
	800	3NW TLM800	64.0

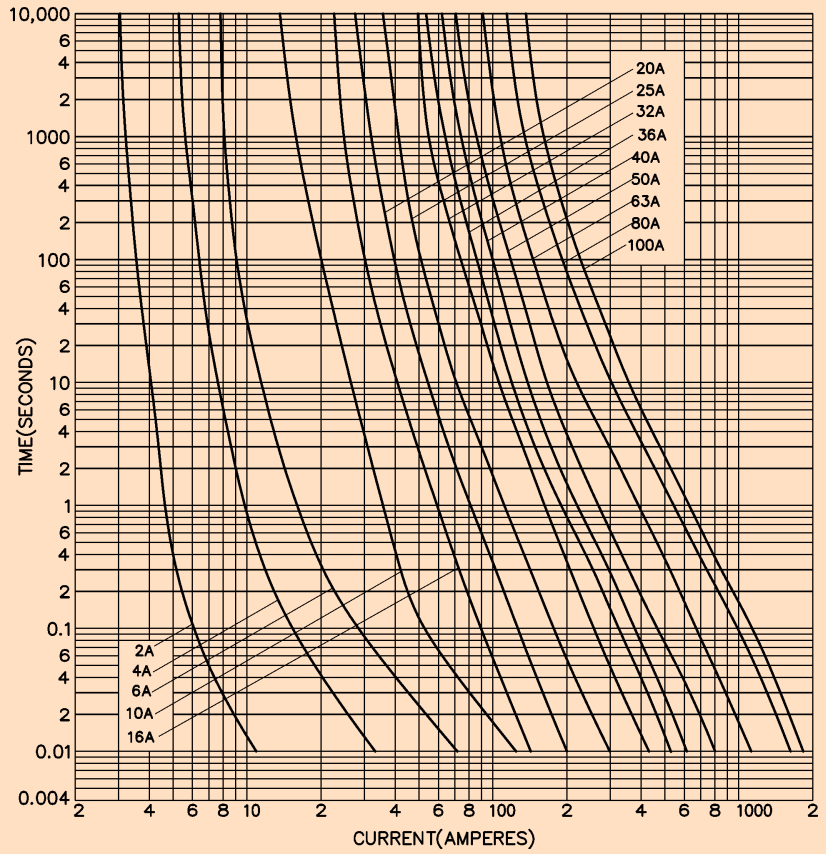




# Characteristics

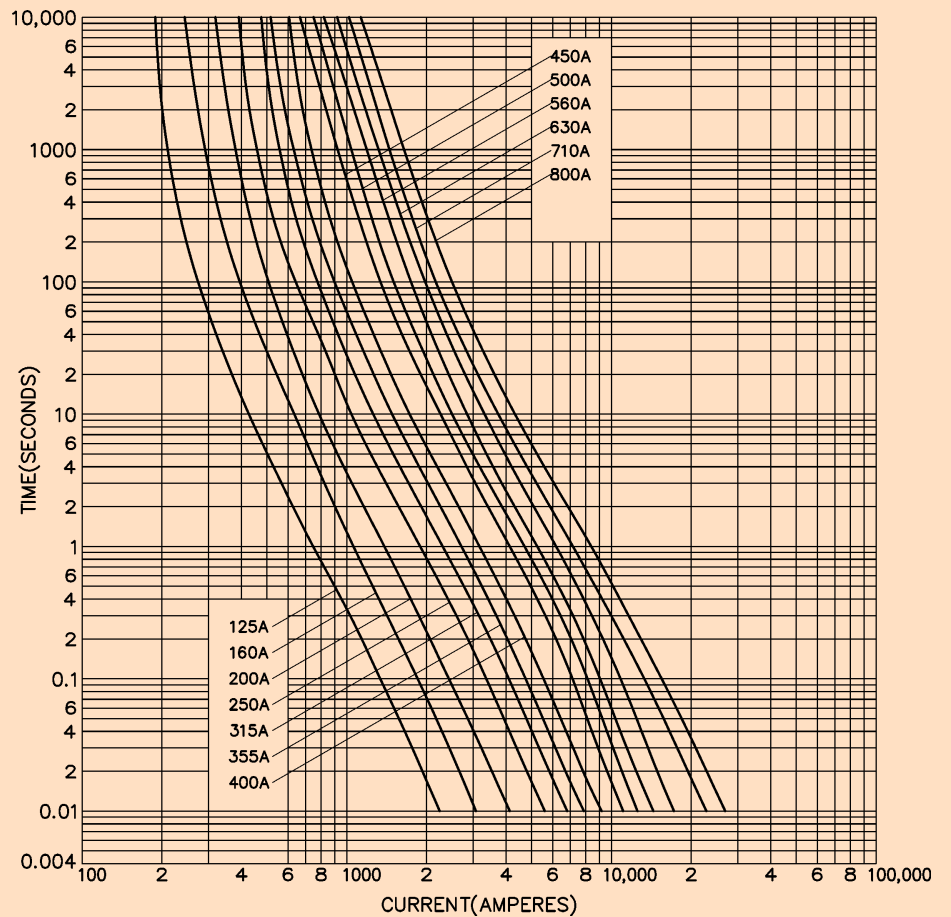
## Time – Current Characteristics

FUSE TYPE
3NW NS
3NW TSA
3NW TIA
3NW TIS
3NW TSS
3NW TC
3NW TCP
3NW TSDS
3NW TSDC



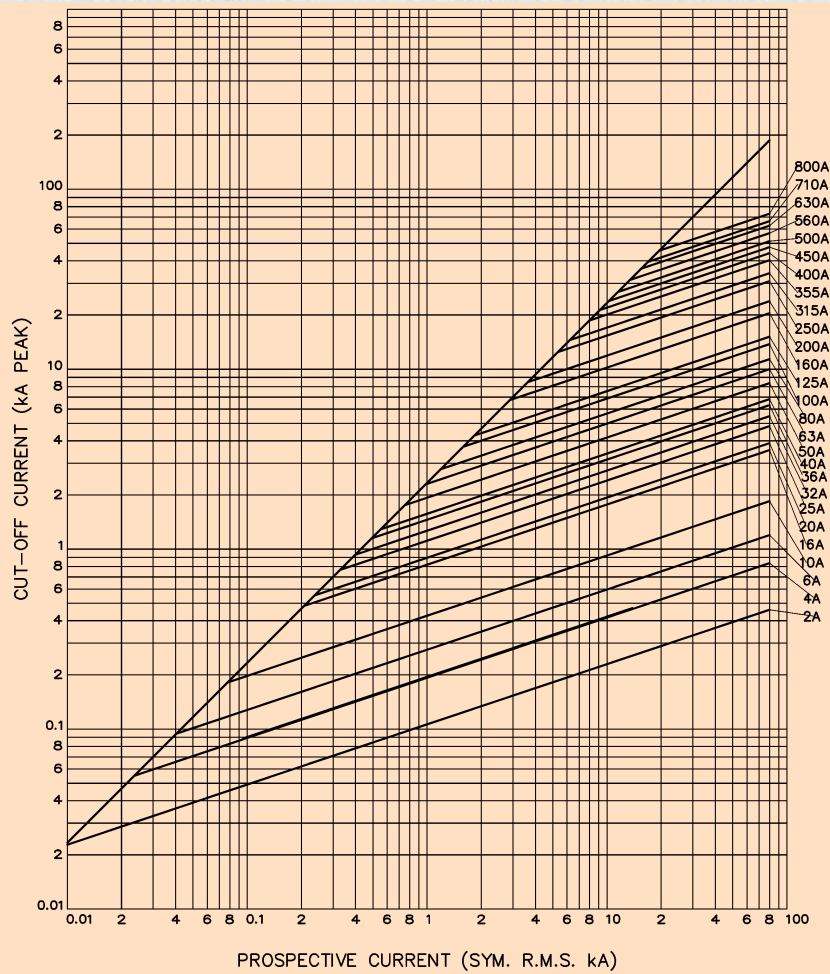
## Time – Current Characteristics

FUSE TYPE
3NW TF
3NW TFP
3NW TKF
3NW TSK
3NW TSF
3NW TSFP
3NW TSMS
3NW TMF
3NW TSTS
3NW TSLS
3NW TTM
3NW TLM

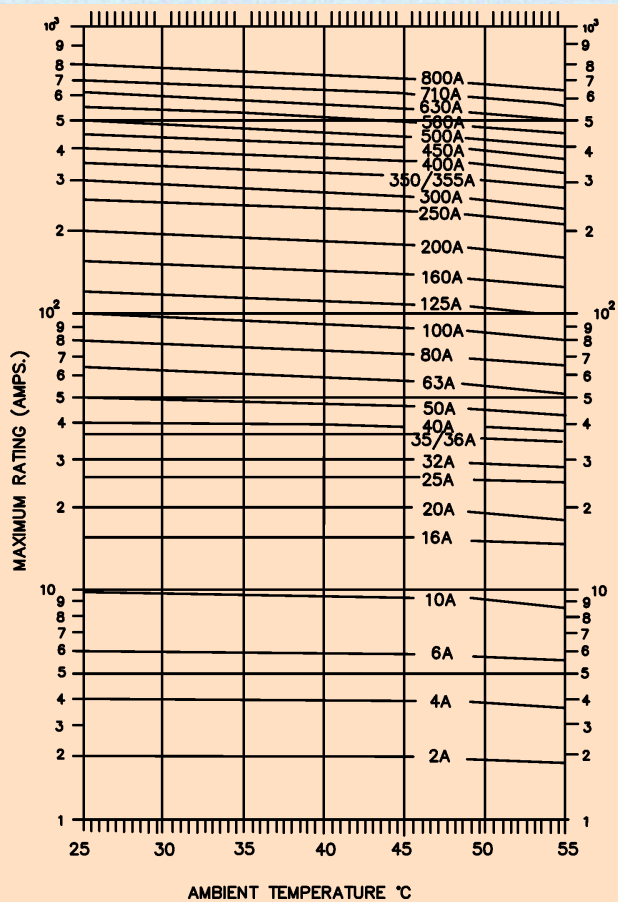


# Characteristics

## Cut-off Current Characteristics



## Temperature Derating Curve

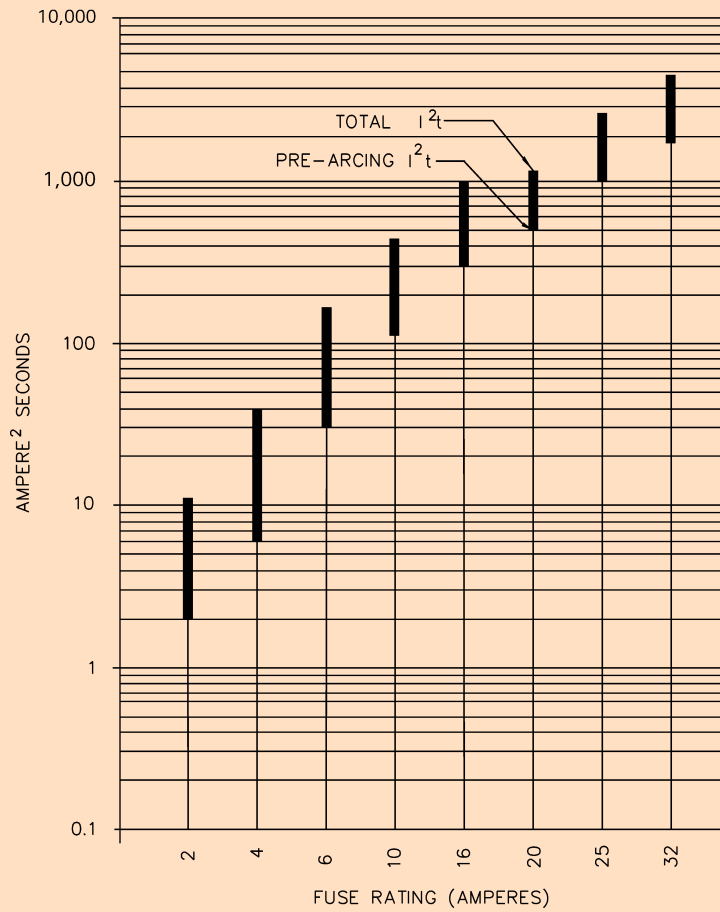




# Characteristics

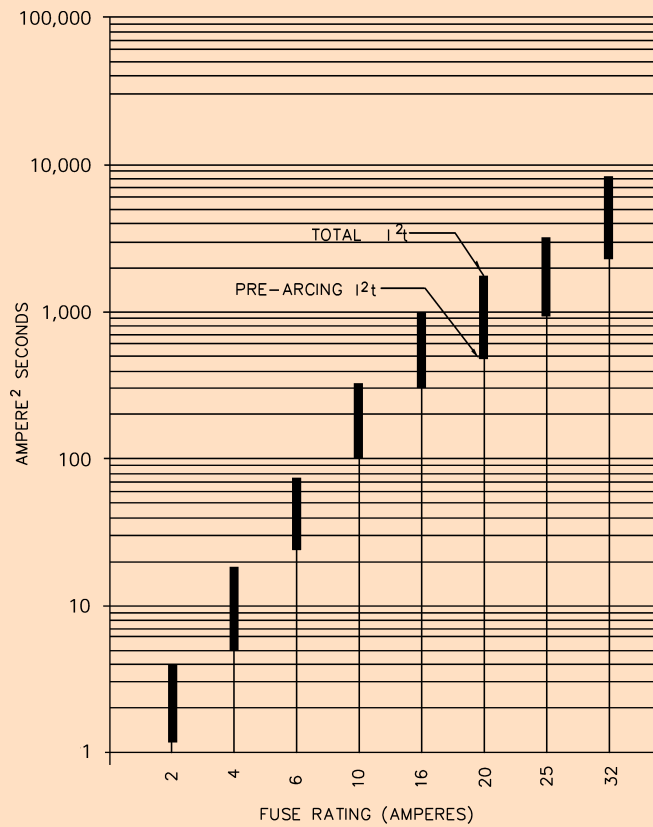
## I<sup>2</sup>t Characteristics

FUSE TYPE
3NW NS
3NW TSA



## I<sup>2</sup>t Characteristics

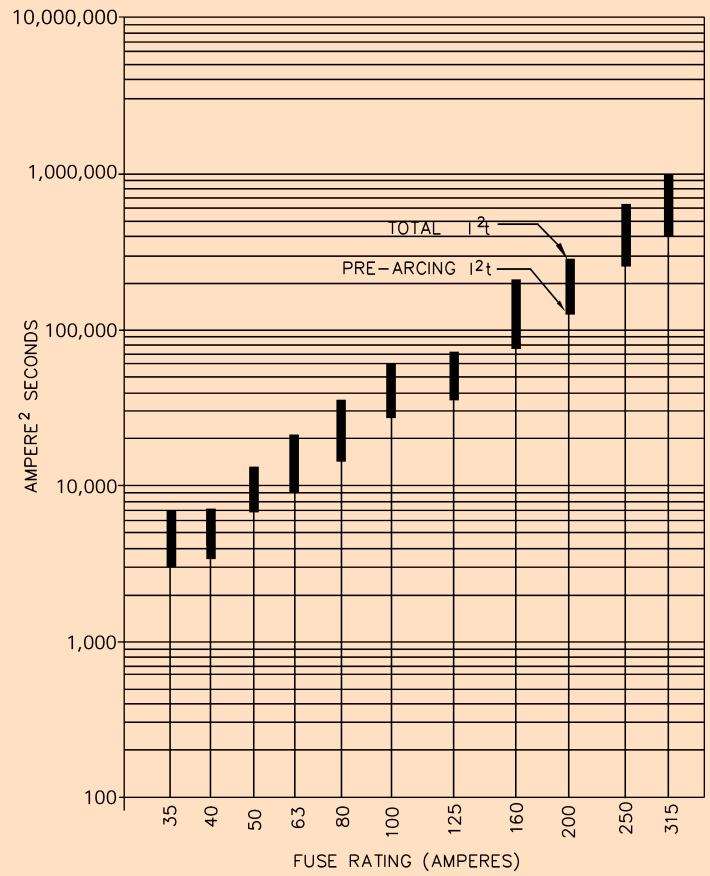
FUSE TYPE
3NW TIA



# Characteristics

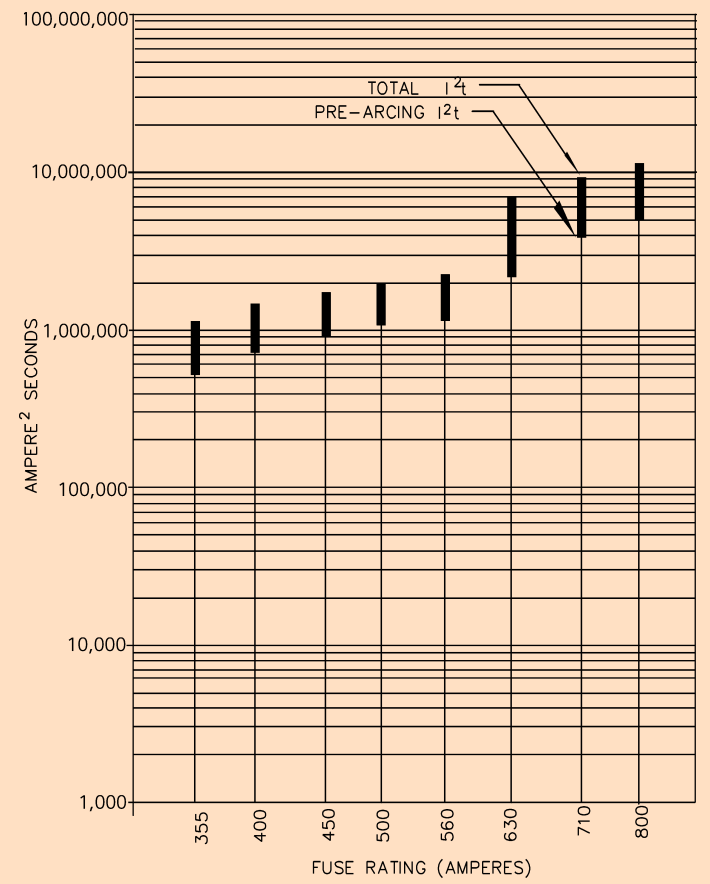
## I<sup>2</sup>t Characteristics

FUSE TYPE
3NW TIS
3NW TSS
3NW TCP
3NW TSDS
3NW TSFP
3NW TSDC
3NW TC
3NW TF
3NW TSF
3NW TSK



## I<sup>2</sup>t Characteristics

FUSE TYPE
3NW TSMS
3NW TMF
3NW TSTS
3NW TTM
3NW TSLs
3NW TLM





## Dimensions (mm)

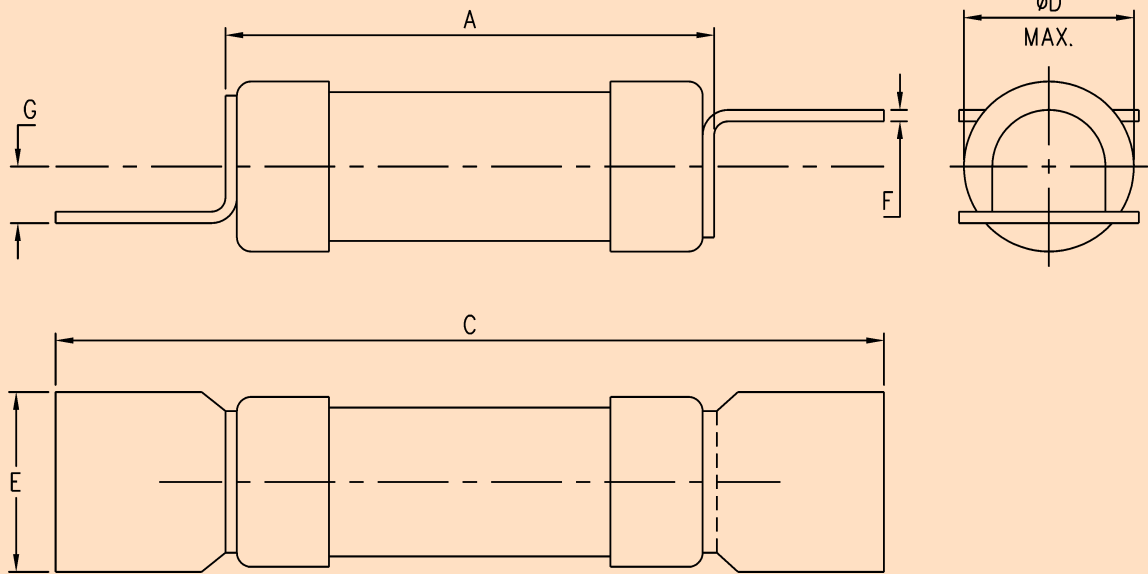


Figure 1

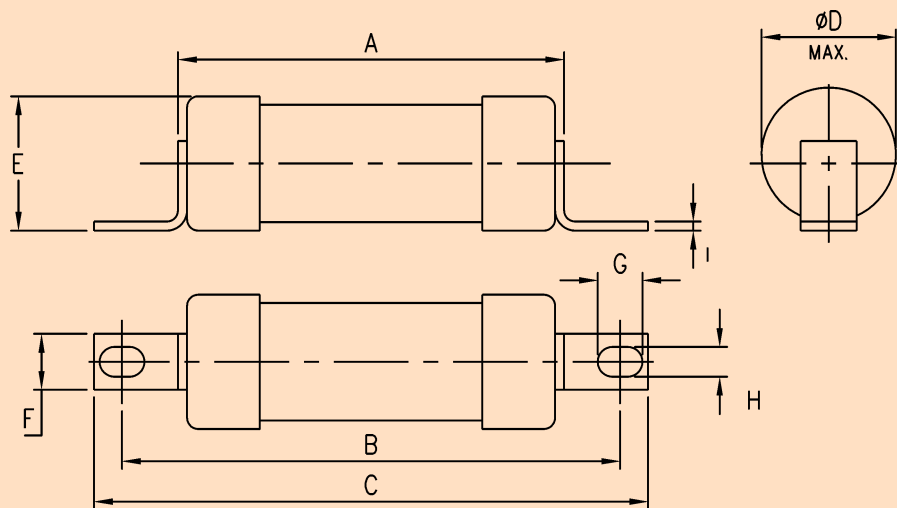


Figure 2

Type Reference		Current Rating Range Amps.	A	B	C	D	E	F	G	H	I	Refer Figure
<b>Blade Tag</b>	3NW NS	2-32	34.50	—	58.50	13.80	12.70	0.80	4.30	—	—	1
<b>Off-Set Tag</b>	3NW TIA	2-32	53.00	73.00	85.00	22.00	22.10	9.20	7.90	5.40	1.00	2
	3NW TSA	6-32	35.50	73.50	85.00	13.70	14.00	8.70	8.00	5.50	1.20	
	3NW TIS	40-63	54.50	73.50	87.00	21.00	22.50	12.70	8.00	5.50	1.20	
	3NW TSS	36-63	54.50	73.50	87.00	21.00	22.50	12.70	8.00	5.50	1.20	
	3NW TCP	80-100	66.00	94.00	111.00	35.50	37.00	20.00	10.30	8.70	2.64	
	3NW TSDS	80-100	54.50	73.00	95.00	21.00	22.50	12.70	8.00	5.50	1.20	
	3NW TSFP	125-200	47.00	94.00	110.00	31.00	29.50	19.00	10.00	9.00	3.20	
	3NW TFP	125-200	66.00	94.00	111.00	38.00	38.00	19.00	10.00	8.50	2.64	

# Dimensions (mm)

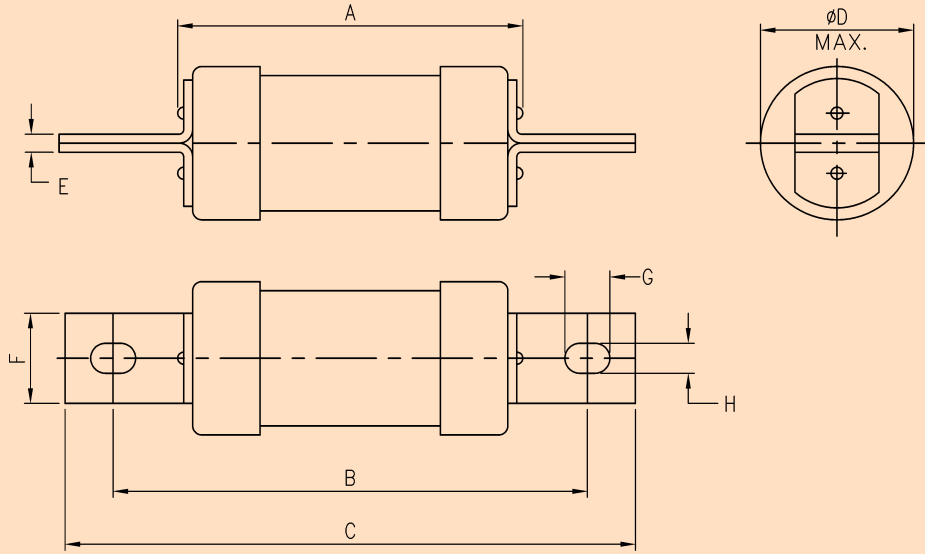


Figure 3

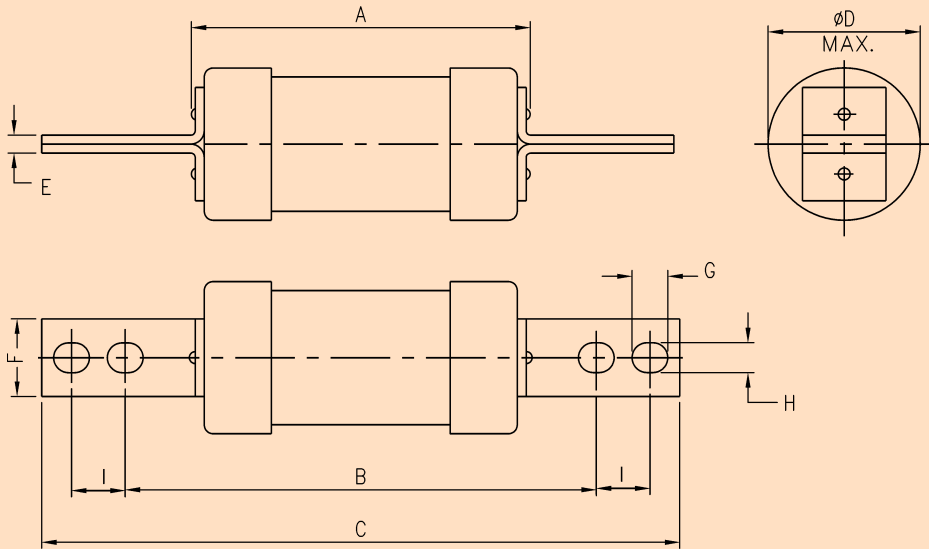


Figure 4

Type Reference		Current Rating Range Amps.	A	B	C	D	E	F	G	H	I	Refer Figure
Centre Tag	3NW TSDC	80-100	58.50	111.00	126.00	21.00	3.20	14.30	11.10	8.70	—	3
	3NW TC	80-100	65.00	111.00	136.00	35.50	3.20	19.00	15.00	8.70	—	
	3NW TF	125-200	65.00	110.00	135.00	37.00	3.20	19.00	15.00	8.70	—	
	3NW TSF	160-200	47.00	110.00	136.00	31.00	3.20	19.00	12.50	9.00	—	
	3NW TKF	250-315	73.00	112.00	138.00	51.00	3.25	26.00	12.70	9.50	—	
	3NW TSK	250-315	47.00	111.00	136.00	38.00	4.70	19.00	12.50	9.00	—	
	3NW TMF	355-400	50.00	111.00	136.00	38.00	4.70	25.40	12.50	9.50	—	
	3NW TSTS	450-500	58.50	133.00	163.00	60.00	6.50	26.00	16.00	11.00	—	
	3NW TSLS	560-630	62.50	133.00	163.00	73.20	10.00	26.00	16.00	11.00	—	
	3NW TSMS	355-400	57.50	133.00	212.00	51.00	5.00	26.00	16.00	11.00	25.40	
3NW TTM	500-630	77.50	134.00	210.00	74.00	6.40	25.40	15.50	10.50	25.40		
3NW TSLS	800	62.00	133.00	212.00	73.20	10.00	25.40	16.00	11.00	25.40		
3NW TLM	710-800	80.50	134.50	210.00	83.00	9.50	25.40	15.50	10.50	25.40		



## BS Fuse Holders

Fuse holders comply with the following standards:-  
 IS13703-2 (1993),  
 BS 88 Part 1 & 2 (1988),  
 IEC 60269 –2-1(1987)

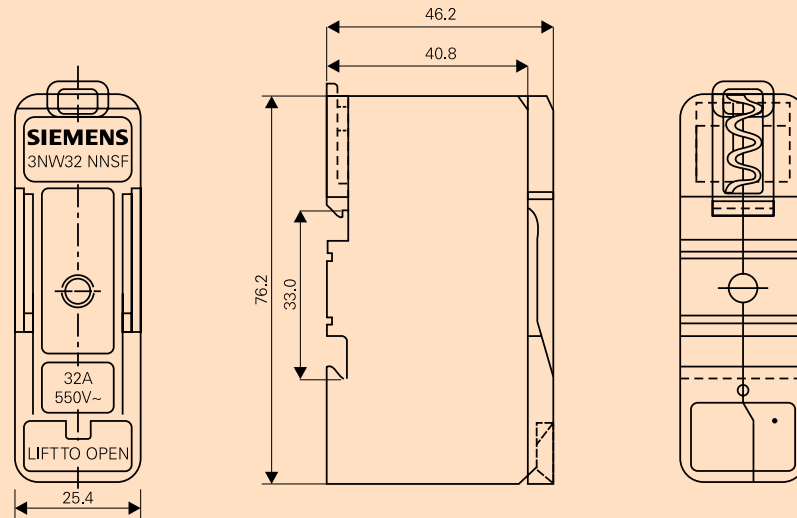
Short Circuit Breaking Capacity : 80kA

## Selection & Ordering Data :

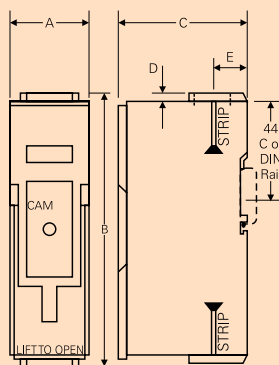
Type Reference	Current Rating (Max.)	Voltage (Max.) AC/DC
	Amps.	Volts
3NW20NNSF	20	550
3NW32NNSF	32	550
3NWCM32F	32	660
3NWCM63F	63	660
3NWCM100F	100	660

## 3NW Fuse Holders Dimensions (mm)

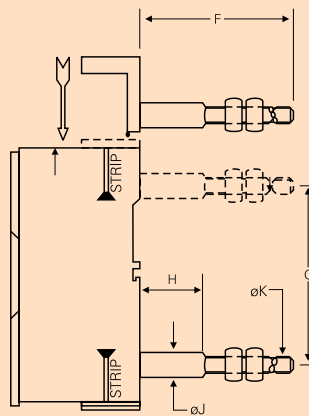
3NW20NNSF, 3NW32NNSF



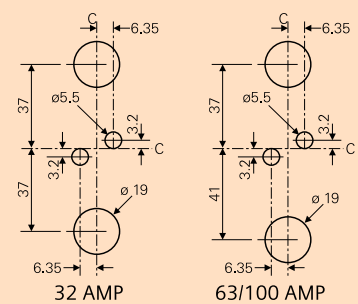
Standard Front Connected Unit



Front wiring/Back Stud and Double Back Stud Connected Units



Panel Drilling Plans, viewed from front of Panel



Units allow easy customer conversion to either Front wiring/ Back Stud or Double Back Stud Connected by use of Back Stud Accessories, using only a screwdriver.

Type	A	B	C	D	E	F	G	H	J	K
3NW CM32F	31.8	117.5	60	3.2	17.5	66	74	28.6	11.9	M6
3NW CM63F	35.6	125	60	4.75	16.4	86.5	79.8	28.6	11.9	M6
3NW CM100F	35.6	125	60	4.75	16.4	86.5	79.8	28.6	11.9	M6

## Your Partners

### Sales Offices:

- **Ahmedabad** - 380009  
1st Floor, Shanti Chamber  
Terapanth Marg, Opp. Dinesh Hall  
Near I.T. Cross Road, Navrangpura  
☎ +91 79 27546803, 27546172  
Fax +91 79 27546711
  - **Bangalore** - 560001  
No.49, Jyoti Mahal, First Floor  
St. Marks Road  
☎ +91 80 22042000  
Fax +91 80 22224131 / 51120735
  - **Chennai** - 600034  
4, Mahatma Gandhi Road  
☎ +91 44 28334000  
Fax +91 44 28334088
  - **Coimbatore** - 641018  
7th Floor, East Wing, Global Towers  
1057, Avinashi Road  
☎ +91 42 25336100  
Fax +91 42 25336106
  - **Hyderabad** - 500004  
5-9-19, Lakshmi Narsinh Estate  
4th Floor, Secretariat Road  
Opp. Secretariat, Saifabad  
☎ +91 40 23482500 (10 Lines)  
Fax +91 40 23482534, 23482578
  - **Kolkata** - 700042  
43 Shanti Palli, R B Connector  
Eastern Metropolitan Bypass  
☎ +91 33 24449000, 24428641-47  
Fax +91 33 24449010 / 13
  - **Mumbai** - 400018  
130, Pandurang Budhkar Marg, Worli  
☎ +91 22 24987000-02  
Fax +91 22 24987312
  - **New Delhi** - 110002  
4A, Ring Road, I.P. Estate  
☎ +91 11 23455000-09  
Fax +91 11 23455030
  - **Pune** - 411004  
Vasant Vihar, 1205/2/6 Shirole Road  
Shivajinagar  
☎ +91 20 25506000  
Fax +91 20 25506060
- ### Territory Managers :
- **Aurangabad**  
Mobile: 9822193204  
E-mail: siemens\_nsk@sancharnet.in
  - **Bhilai** - 490001  
C/o. Mr. S. H. Siddiqui  
Sector -1, Street- 9, Quarter No.1A  
Mobile: 9826127525  
E-mail: siemens\_chg@sify.com
  - **Bhopal** - 462023  
C/o. Mr. A.K. Sundrani,  
Sector - D, Plot No. B-204  
Meenal Residency, J.K. Road  
☎ +91 755 2688662  
Mobile: 9425057945  
E-mail: siemens@sancharnet.in
  - **Bhubaneswar** - 751003  
Flat No. 4C, Aditya Palace  
218/219, Paika Nagar  
☎ +91 661 2563124  
Mobile: 9437013124  
E-mail: angshumanrc@yahoo.com
  - **Chandigarh** - 134113  
House No.352, Sector 15  
Panchkula, Haryana  
☎ & Fax +91 172 2585902  
Mobile : 9417121990  
E-mail: siemenschd@satyam.net.in
  - **Cochin** - 682016  
Preethi Building, 1st Floor  
M.G.Road, Ernakulam  
☎ +91 484 2380201, 2380506  
Fax +91 484 2371564  
E-mail: kumchn@satyammail.com
  - **Durgapur** - 713216  
A-39, Moulana Azad Sarani  
1st Floor, City Centre  
☎ +91 343 2546777  
Mobile: 9832172046  
E-mail: dgp\_sldgp@sancharnet.in
  - **Guwahati** - 781003  
G1, Hill View Apartment  
Navagraha Path, Chenikuthi Hill Side  
☎ +91 361 2663988  
Mobile: 9864037562  
E-mail: konard@vsnl.net
  - **Hardwar** - 249407  
758, 1<sup>st</sup> Floor, Model Colony  
Awass Vikas, Jwalapur, Uttaranchal  
☎ +91 1334 265491  
Mobile: 9897070133  
E-mail: siemens\_hwd@datainfosys.net
  - **Indore** - 452001  
304, 18-19, Yash Tower  
Maha Durga Nagar, Janki Nagar  
Mobile: 9826641970  
E-mail: siemens\_indore@yahoo.com
  - **Jaipur** - 302016  
Flat No.104  
Akshat Kailash Apartment  
Basant Marg, Bani Park, Rajasthan  
☎ & Fax +91 141 2204910  
Mobile: 9829244313  
E-mail: siemens\_jpr@dil.in
  - **Jalandhar** - 144004  
46, 2<sup>nd</sup> Floor, Saraswati Vihar  
Kapurthala Road, Punjab  
☎ +91 181 2259099  
Mobile: 9815921211  
E-mail: siemensjal@vsnl.net
  - **Jamshedpur** - 831005  
1511, Kirthar Apartment,  
Vijaya Heritage Uliyan, Kadma  
☎ +91 657 2311352  
Mobile: 9835182772  
E-mail: bapL\_indranil@rediffmail.com /  
Siemens\_jsr@yahoo.com
  - **Kanpur** - 208001  
Flat No.19-B, 4<sup>th</sup> Floor, Prabhu Vatika  
7/109, Swarup Nagar, U. P.  
☎/Fax +91 512 2548765  
Mobile: 9839102434  
E-mail: siemens\_knp@satyam.net.in
  - **Kolhapur** - 416001  
Plot No.35, Vasant Smruti  
Shivaji Park  
☎ +91 231 2536626  
Mobile: 9822848415  
E-mail: siemenskpr@sancharnet.in
  - **Lucknow** - 226001  
47, HIG , 1st Floor, Avass Vikas Colony  
Mail Avenue , U.P.  
☎ +91 522 2217421  
Mobile: 9415012500  
E-mail: siemens\_lko@satyam.net.in
  - **Ludhiana** - 141001  
Flat No.5 (GF), HIG Flats  
Opp. Milk Plant  
Bhai Randhir Singh Nagar  
Ferozpur Road Punjab  
☎ +91 161 2457199  
Mobile: 9417045273  
E-mail: siemens\_ldh@satyam.net.in
  - **Madurai** - 625003  
26, 1st Floor, Kumarar Street  
Alagappa Nagar  
Mobile: 9443369375  
E-mail: k.shankar@siemens.com
  - **Nagpur** - 440015  
Sai Sadan, Plot No.1  
Near Mount Carmel School  
Ajani Square  
Mobile: 9850300524  
E-mail: siemensnagpur@sify.com
  - **Nashik** -  
Mobile: 9822193204  
E-mail: siemens\_nsk@sancharnet.in
  - **Rourkela** - 769004  
T-15 Civil Town  
☎ +91 661 2401724  
Mobile: 9437041724  
E-mail: ganguly\_sI@yahoo.co.in
  - **Shaktinagar** - 231222  
Room No. 7, Panchvati Guest House  
Kota Basti, Dist. Sonebhadra, U.P.  
☎ +91 5446 233212, 232044  
Mobile: 9415233345  
E-mail: siemens\_upeast@sify.com
  - **Udaipur** - 313001  
Oasis Park, Flat No.303  
P.P. Singhal Marh, Ambavgarh  
☎ +91 294 2430345  
Mobile: 9829039120
  - **Vapi** - 396191  
B-603, Parasmani Apt.  
Opp. Post Office  
Besides Hanuman Temple  
☎ +91 260 2462328  
Mobile: 9825147957  
E-mail: siemens\_vapi@sancharnet.in
  - **Vijayawada** - 520010  
G-2, Shreya Towers  
Moghalrajapuram  
Near Jammichettu Centre  
☎ +91 866 5529933  
Mobile: 9849001842  
E-mail: srisachandra.kartikeya@siemens.com  
kartikeya\_p@rediffmail.com
  - **Visakhapatnam** - 530004  
Flat No. 101, Shripal Towers  
Kiralampudi Layout  
Mobile: 9849077719  
E-mail: siemensvizag@rediffmail.com

### Siemens Ltd.

#### Automation and Drives Division

Electrical Installation Technology

Thane Belapur Road

Thane 400601

Fax : +91 22 27623729

e-mail : A&D-BDCD.in@siemens.com

Siemens Ltd.

ET-01-107-022

This Replaces ET-01-107-012

'Product development is a continuous process. Consequently, the data indicated in this Catalogue is subject to change without prior notice. For latest issue contact our Sales Offices.'