

Circuit-Breakers up to 6300 A

Description

Field of application

Depending on the version, the 3VF and 3W circuit-breakers can be used as:

- incoming and outgoing circuit-breakers in three-phase distribution systems,
- switching and protective devices for motors, generators, transformers and capacitors,
- main switches for machine tools and processing machines; regulations regarding covers, installation and drives are the responsibility of the user (DIN VDE 0113),
- DIN VDE 0113 EMERGENCY STOP devices if the circuit-breaker is equipped with an undervoltage release and is used in conjunction with an EMERGENCY STOP control device.

Selection of circuit-breakers

The following points should be noted when selecting circuit-breakers:

- the operational current of the system or branch determines the size and rated current I_n of the circuit-breaker (see selection and ordering data).
- the expected short-circuit current where the circuit-breaker is to be installed and the operational voltage of the plant determine the breaking capacity of the circuit-breaker (see Technical Data).
- Selectivity: compact circuit-breakers have a limited selectivity between each other. The "KUBS plus" PC software can be used as a project planning tool (see Part 17). A set of tables in the leaflet "Selectivity and back-up protection in fuseless low-voltage feeders" shows the selectivity values resulting from tests of various circuit-breaker assemblies. A better selectivity can be obtained by time-grading of the short-circuit releases. The 3WN1 and 3WN6 circuit-breakers are particularly suitable for this purpose.

Scope of supply

3VF circuit-breakers – compact, versatile and efficient

- for line protection
- for motor protection
- for starter combinations
- non-automatic circuit-breakers
- rated short-circuit breaking capacity up to 100 kA up to 415 V AC up to 35 kA up to 690 V AC
- rated currents from 16 to 2500 A

3WN6 circuit-breakers – low-cost, suitable for universal application, space-saving, easy to maintain

- for power distribution in buildings and industrial plants
- rated currents from 630 to 3200 A
- rated operational voltage up to 690 V AC
- rated short-circuit breaking capacity from 80 kA up to 500 V AC from 50 kA up to 690 V AC
- full selectivity up to 65 kA up to 1 s

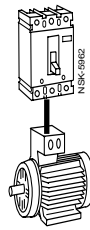
3WN1 circuit-breakers – for highest capacity

- for power distribution in high-capacity systems, highest selectivity
- rated currents from 630 up to 6300 A
- rated operational voltage up to 1000 V AC
- rated short-circuit breaking capacity from 100 kA up to 500 V from 80 kA up to 690 V
- full selectivity up to 100 kA up to 1 s

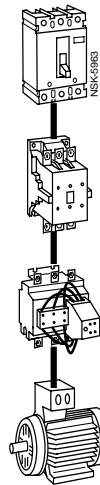
3WS1 vacuum circuit-breakers – maintenance-free for highest endurance

- for frequent switching of high power, up to 30000 operating cycles without maintenance, maintenance-free even following short-circuit breaking
- rated currents from 630 up to 2500 A
- rated operational voltage up to 1000 V AC
- rated short-circuit breaking capacity from 65 kA up to 690 V AC from 40 kA up to 1000 V AC
- full selectivity up to 1 s

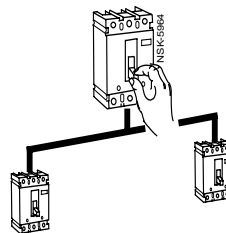
3VF circuit-breakers for motor protection



3VF circuit-breakers for starter combinations



3VF non-automatic circuit-breakers



For other circuit-breakers (complete program) see Catalog NS PS

This catalog only contains the standard range of low-voltage circuit-breakers from 16 to 6300 A.

See Catalog NS PS "Products and Systems for Power Distribution" for the complete range of circuit-breakers for AC and DC up to 6300 A, Order No. E20002-K1801-A101-A2.

Communication-Capable 3VF, 3WN6, 3WN1, 3WS1 Circuit-Breakers

For other circuit-breakers (complete program) see Catalog NS PS



PROFIBUS-DP

Communication-capable circuit-breakers transmit data via a standard (EN 50170), manufacturer-neutral PROFIBUS-DP bus system to higher-level automation systems (e.g. SIMATIC S5[®]) (see the table below for notes on the selection and functions of each).

The bus technology permits:

- low-cost planning, wiring and commissioning
- remote control and rapid fault diagnosis resulting in preventive maintenance and shorter plant down-time
- flexibility: amendments to set-up parameters when requirements change
- serial switching on and off of loads to avoid expensive load peaks – power management.

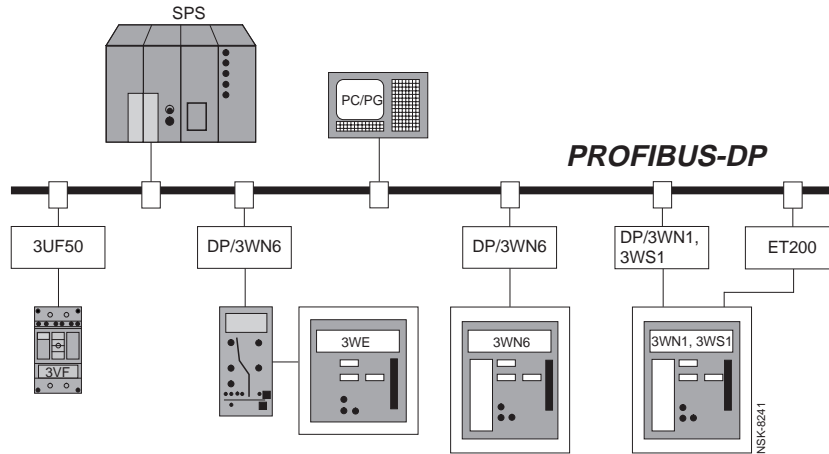
The use of communication-capable circuit-breakers is particularly useful when a high-availability plant has to be implemented at low cost.

Selection of communication-capable circuit-breakers

- The following should generally be selected for **3VF circuit-breakers**:
 1. a conventional circuit-breaker (see page 11/12 ff.)
 2. the corresponding motorized operating mechanism for on/off commands (see page 11/20 ff., Accessories)
 3. the appropriate SIMOCODE-DP for the 3VF circuit-breaker (the measuring range of the SIMOCODE-DP covers the setting range I_r of the 3VF circuit-breaker, see Part 1)
 4. the accessories listed on page 11/4 (absolutely essential).

To speed up the selection process, a list of pre-assigned order numbers for selected communication-capable 3VF circuit-breakers and the associated motorized operating mechanisms or SIMOCODE-DP can be found on page 11/4.

- See the description on page 11/5 for some general points regarding the selection of communication-capable 3WN6 circuit-breakers.



PLC Programmable Controller

PC Personal Computer
PG Programming Unit

To speed up the selection process, 6 pre-assigned order numbers for selected types can be found on page 11.

- The following points should be borne in mind when selecting communication-capable **3WN1 or 3WS1 circuit-breakers**:

1. the letter R ("azn") or V ("azng") (for earth-fault protection) is to be entered as

the 10th digit of the circuit-breaker order number.

2. add **"-Z"** and the code **"F01"** to the order number.
3. in the case of a withdrawable circuit-breaker, add **"-Z"** and the code **"R39"** to the order number of the guide frame (order separately).
4. the accessories listed on page 11/7 (absolutely essential).

To speed up the selection process pre-assigned order numbers for selected types of 3WN1 circuit-breakers can be found on page 11/7.

Software see Part 1.

Overview: Functions of communication-capable circuit-breakers¹⁾

Circuit breaker	3VF (up to 800 A)	3WN6 (up to 3200 A)	3WS1/3WN1 (up to 2500/6300 A)	
Interface used	SIMOCODE-DP (3UF50)	DP/3WN6	DP/3WN1, 3WS1	ET200
Switching commands – on/off	+	+	–	+
Operating status – ON/OFF – ready	+ –	+ +	–	+ + (breaker with "-Z" and code "M10")
Event signals – tripped signals	+	+	+	+ (breaker with "-Z" and code "M02")
– overload warning	+	+	+	+
Measured values – max. phase current I_{max} – currents I_{L1}, I_{L2}, I_{L3} – current I_N	+ – –	+ + +	+ + –	– – –
Power management – power P , work W , power factor, voltage U	(PROFIBUS measuring device can be used ²⁾)	+ (breaker with "-Z" and code "F05")	(use PROFIBUS measuring device ²⁾)	
Parameters can be set via bus (e.g. tripping current)	+ (values of SIMOCODE-DP)	+	–	

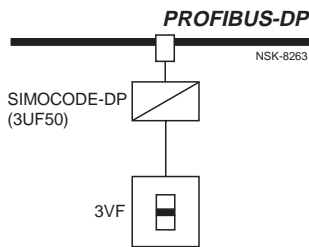
1) Refer to the system manual "Communication between 3VF, 3WN6, 3WN1/3WS1 circuit-breakers and PROFIBUS-DP", page 11/4, for the complete user data and range of functions of the circuit-breakers.

2) Further information on request.

Communication-Capable 3VF Circuit-Breakers up to 800 A, for Fixed-Mounting, 3-pole

See Catalog NS PS
for ordering examples,
other circuit-breakers

Selection and ordering data



Rated operational voltage
 U_e up to 690 V AC

With auxiliary switch (1 changeover)
and alarm switch (1 changeover)
With motorized on/off mechanism
220 to 240 V AC (order separately)¹⁾

Technical data, see page 11/9
and page 11/28 ff.

For communication, the SIMOCODE-DP
interface is required.

Functions with PROFIBUS-DP:

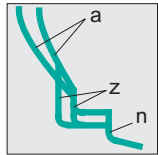
- circuit-breaker on/off command,
- operational status signal (circuit-breaker on/off),
- tripped signal,
- overload signal,
- transmission of maximum phase current (I_{Lmax}),
- modification (of SIMOCODE-DP) settings,
- operating hours

Regarding selection, see the Description on
page 11/3.

Rated current I_n	Setting current of the inverse-time delayed overload release "a" I_r	Operating current of the instantaneous short-circuit release "n" I_i	3VF circuit-breakers		Required motorized operating mechanism 220 to 240 V AC ¹⁾ (for switching on/off)		Interface: SIMOCODE-DP motor protection and control device (see Part 1)	
			Order No. (Order No. supplement see below)	Basic price	Order No.	Price	Order No.	Price
A	A	A						
80 200	63–80 160–200	400–800 1000–2000	3VF31 11-□BQ41-0AN1 3VF33 11-□BX41-0AN1		3VF9 323-1ME10 3VF9 323-1ME10		3UF50 21-3BN00-1 3UF50 31-3BN00-1	
250 400	200–250 315–400	1250–2500 2000–4000	3VF42 11-□BM41-0AN1 3VF52 11-□BM41-0AN1		3VF9 423-1ME10 3VF9 523-1ME10		3UF50 41-3BN00-1 3UF50 41-3BN00-1	
500 630	400–500 500–630	2500–5000 3150–6300	3VF62 11-□BK44-0AN1 3VF62 11-□BM44-0AN1		3VF9 623-1ME10 3VF9 623-1ME10		3UF50 41-3BN00-1 3UF50 51-3BN00-1	
800	400, 500, 630, 800	15000	3VF71 11-□BK60-0AN1		3VF9 723-1NE30		3UF50 51-3BN00-1	



NS1-5017a



NS1-5018a

Order No. supplements

Rated short-circuit breaking capacity, see page 11/9	Order No. supplement 3VF...-□...-...	Circuit-breakers						
		3VF31 Additional price	3VF33 Additional price	3VF4 Additional price	3VF5 Additional price	3VF62 11-.BK Additional price	3VF62 11-.BM Additional price	3VF71 Additional price
Standard breaking capacity	1	none	none	none	none	none	none	none
High breaking capacity	2							
Very high breaking capacity	3							

Accessories (absolutely essential)

Version	Order No.	Price
System manual Communication interface of the circuit-breaker 3VF, 3WN6, 3WN1/3WS1 with PROFIBUS-DP	Nominal charge E20001-P285-A644-V1	
System manual for SIMOCODE-DP German, including system files English, including system files with description of the communication via PROFIBUS-DP	Nominal charge Nominal charge 3UF57 00-0AA00-0 3UF57 00-0AA00-1	
PROFIBUS connector for connecting the interface to PROFIBUS PROFIBUS bus cables: see Catalog ST P1 "PROFIBUS & AS Interface Components on Field Bus"	6ES7 972-0BB40-0XA0	
Connecting cable for communication with a PC via the SIMOCODE-DP system interface, length 5 m	3RW29 20-1DA00	
Parameterization software Win-SIMOCODE-DP Smart Software based on Windows 95 or Windows NT for parameterization, control, diagnosis and test of SIMOCODE-DP via the SIMOCODE-DP- system interface German/English selectable (without connecting cable)	3UF57 11-0AA00-0	

¹⁾ See page 11/10 ff. for other items. An additional contactor relay should be used for operating voltages < 220 V AC.

Communication-Capable 3WN6 Circuit-Breakers up to 3200 A

For other circuit-breakers (complete program) see Catalog NS PS

The hardware and software components shown in the adjacent diagram are required in order to communicate with the 3WN6 circuit-breaker via PROFIBUS-DP.

The overcurrent releases D, E/F, H, J/K, N and P are all communication-capable with the additional functions 2.

In contrast to the standard circuit-breaker, the communication-capable 3WN6 circuit-breaker has an additional communications module. Additional measuring functions for the N and P releases can be provided by ordering a communications module with a measuring function (measuring module) instead of the pure communications module.

Additional measuring functions:

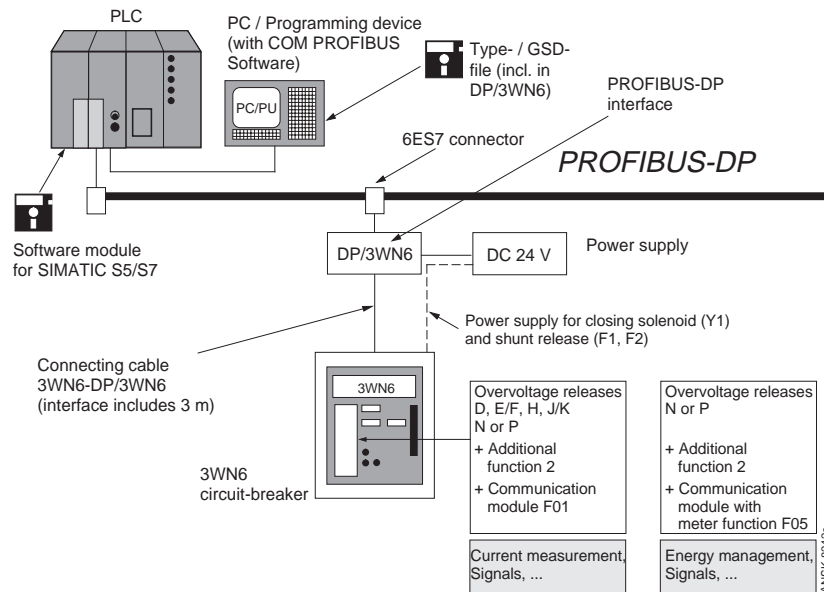
1. Measuring of:
 - phase voltage
 - frequency
 - active, reactive and apparent power
 - power factor
 - active power demand
2. Setting of alarm or trip values for:
 - non-symmetrical phase voltage
 - energy flow direction
 - over/under frequency
 - over/undervoltage

General ordering information

- For "Additional Functions 2", enter "7" as the 8th digit of the order number of the circuit-breaker.
- The type of release ("D" to "P") is to be entered as the 10th digit of the order number.
- For a communications module, add "-Z" and the order code "F01" to the order number.
- For a communications module with a measuring function, add "-Z" and the order code "F05" to the order number.
- We recommend that the breaker be reset automatically after tripping, in which case "-Z" and the order code "K01" should be added to the order number.
- The 3- and 4-pole circuit-breakers are generally communications capable.

See page 11/6 or page 11/39 ff for more information regarding the order number

System components



Description

Notes

Note 1

If communication-capable with withdrawable frames and 3WN6 withdrawable circuit-breakers are ordered separately, two order numbers must be quoted.

In the case of a withdrawable breaker without a withdrawable frame, enter "7" as the 6th digit of the order number.

Order no. circuit-breaker:
3WN6 .7.-7....-.... with "-Z"
 and order code "F01" or "F05"

Order no. withdrawable frame:
3WX36 83-.A.0 with "-Z" and
 order code "R39"

Note 2

To operate the circuit-breaker remotely using PROFIBUS, the breaker must be fitted with a motor-operating mechanism with a stored energy release coil (Y1). To switch the 3WN6 off remotely using PROFIBUS, the breaker must be fitted with a shunt release (1st or 2nd auxiliary release) (see pages 11/39 and 11/40).

In addition to a communication-capable breaker, the following accessories are absolutely essential (see page 11/6):

- System manual (useful for configuring and during commissioning)
- DP/3WN6 interface
- 24 V DC power supply for the interface
- PROFIBUS connector and bus cables.

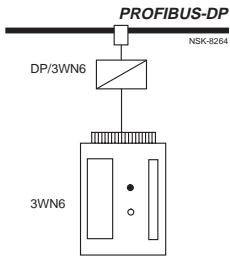
Recommended to obtain maximum communications capability when using SIMATIC S5/S7: Software module (see page 11/6, Accessories).

To speed up the selection process pre-assigned order numbers for selected types can be found on page 11/6.

Communication-Capable 3WN6 Circuit-Breakers up to 3200 A, 3-pole

See Catalog NS PS
for ordering examples,
other circuit-breakers (incl. 4-pole)

Selection and ordering data



Rated operational voltage U_e up to 690 V AC
Rated ultimate short-circuit breaking capacity I_{cu}
up to 500/690 V AC:
Size I up to 65/50 kA;
Size II up to 80/50 kA

With motorized operating mechanism 24 V DC
With shunt release 24 V DC
With auxiliary switch (2 NO + 2 NC)

Technical data and other versions see
page 11/39 ff.

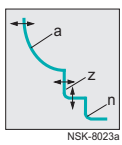
Functions with PROFIBUS:
See Order No. supplements below.

For overall functionality, see the
system manual "Communication
interconnectivity of the 3VF, 3WN6,
3WN1/3WS1 circuit-breakers with
PROFIBUS" (under Accessories).

Regarding selection, see the Description
on page 11/5.

Size	Rated current I_n = trans- former rated current I_n	Current set- ting range I_r	Fixed-mounted circuit-breakers with horizontal connection at the rear			Withdrawable circuit-breakers with guide frame and with horizontal connection at the rear		
			Order No.	Order only with order code F01 or F05	Basic price	Order No.	Order only with order code F01 or F05	Basic price
A	A	A						

Circuit-breakers with overcurrent releases for overload and short-circuit protection



I	630	252- 630	3WN6 061-7D □ 51-1BA1-Z	□□□		3WN6 081-7D □ 51-1BA1-Z	□□□
I	800	320- 800	3WN6 161-7E □ 51-1BA1-Z	□□□		3WN6 181-7E □ 51-1BA1-Z	□□□
I	1000	400-1000	3WN6 261-7F □ 51-1BA1-Z	□□□		3WN6 281-7F □ 51-1BA1-Z	□□□
I	1250	500-1250	3WN6 361-7G □ 51-1BA1-Z	□□□		3WN6 381-7G □ 51-1BA1-Z	□□□
I	1600	640-1600	3WN6 461-7H □ 51-1BA1-Z	□□□		3WN6 481-7H □ 51-1BA1-Z	□□□
II	2000	800-2000	3WN6 561-7J □ 51-1BA1-Z	□□□		3WN6 581-7J □ 51-1BA1-Z	□□□
II	2500	1000-2500	3WN6 661-7K □ 51-1BA1-Z	□□□		3WN6 681-7K □ 51-1BA1-Z	□□□
II	3200	1280-3200	3WN6 761-7M □ 51-1BA1-Z	□□□		3WN6 781-7M □ 51-1BA1-Z	□□□

Overcurrent releases (see Catalog NS PS)	Functions with PROFIBUS	Order No. supplement	Additional price	Order No. supplement	Additional price
"aznN"	① • transmission of the phase currents I_{L1} , I_{L2} , I_{L3} , I_{Lmax} , • tripped signal, • warning signal, • operational status signal (circuit-breaker on/off), • circuit-breaker on/off command	D	F 01	D	F 01
"aznNg"	• tripped signal, • warning signal, • operational status signal (circuit-breaker on/off), • circuit-breaker on/off command	E	F 01	E	F 01
"aznN"	② as ①, in addition: • remote parameterization of settings and protective parameters of the circuit-breaker.	H	F 01	H	F 01
"aznNg"	• remote parameterization of settings and protective parameters of the circuit-breaker.	J	F 01	J	F 01
"aznN"	③ as ②, in addition: • extended measuring functions (see page 11/5)	N	F 05 ¹⁾	N	F 05 ¹⁾
"aznNg"	• extended measuring functions (see page 11/5)	P	F 05 ¹⁾	P	F 05 ¹⁾

Further versions (highly recommended)

When ordering circuit-breakers in the above versions the complete Order No. must be supplemented with "-Z" and the order code below.

Order No.	Additional price
3WN6 ..1-7..51-1BA1-Z and additional order code □□□	

With automatic mechanical reset after tripping

K 01

(if the additional K01 function is not ordered, the breaker can be reset manually after tripping by pressing the red RESET button on the breaker)

Accessories

For communication-capable 3WN6 circuit-breakers

	Order No.	Price
System manual Communication interconnectivity of 3VF, 3WN6, 3WN1/3WS1 circuit-breakers with PROFIBUS-DP	E20001-P285-A644-V1	Nominal charge
DP/3WN6 interface required once per communication-capable circuit-breaker (incl. 3 1/2" diskette with type, or GSD file and connecting cable)	3RK1 000-0JC80-0BA2	
DC power supply 24 V for DP/3WN6 interface power consumption max. 800 mA including overcurrent release	e.g. 4AV2, see Part14	
PROFIBUS connector for connecting the interface to the PROFIBUS; see Catalog ST PI for PROFIBUS bus cables "PROFIBUS & AS Interface Components on the Field Bus"	6ES7 972-0BB40-0XA0	
Software module for SIMATIC S5 and S7; programming aid for communication control, 3 1/2" diskettes	3RK1 800-0AA00-0AA0	

Other communication-capable 3WN6 circuit-breakers, see page 11/5.

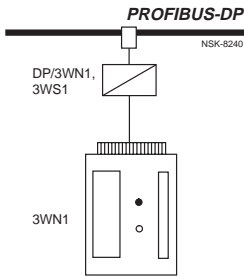
1) External voltage transformers are provided.

Communication-Capable 3WN1 Circuit-Breakers

up to 6300 A, 3-pole

See Catalog NS PS
for ordering examples,
other circuit-breakers (incl. 4-pole)

Selection and ordering data



Rated operational voltage U_e up to 690 V AC
Rated ultimate short-circuit breaking capacity I_{cu}
up to 500/690 V AC:
Size I, II up to 80/60 kA;
Size III, IV up to 100/80 kA
With motorized operating mechanism 220 to
250 V AC
With shunt release 220 to 240 V AC
With auxiliary switch (2 NO+ 2 NC)
Technical data, see Catalog NS PS.

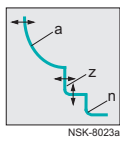
Functions with PROFIBUS:

- transmission of phase currents
- tripped signal
- warning signal
- operational status signal (breaker on/off)
- circuit-breaker on/off command

Regarding selection, see the Description on page 11/3.

Size	Rated current I_n = transformer rated current I_n	Current setting range I_r	Fixed-mounted circuit-breakers with vertical connecting rails at top and bottom			Withdrawable circuit-breakers without guide frames		
			Order No.	Order only with order code F01	Basic price	Order No.	Order only with order code F01	Basic price
A	A	A						

Circuit-breakers with overcurrent releases for overload and short-circuit protection



I/1	630	252-630	3WN1 061-1D	68-1JA5-Z	F01	3WN1 071-1D	68-1JA5-Z	F01
I/1	800	320-800	3WN1 161-1E	68-1JA5-Z	F01	3WN1 171-1E	68-1JA5-Z	F01
I/1	1000	400-1000	3WN1 261-1F	68-1JA5-Z	F01	3WN1 271-1F	68-1JA5-Z	F01
I/1	1250	500-1250	3WN1 261-1G	68-1JA5-Z	F01	3WN1 271-1G	68-1JA5-Z	F01
I/2	1250	500-1250	3WN1 361-1G	68-1JA5-Z	F01	3WN1 371-1G	68-1JA5-Z	F01
I/2	1600	640-1600	3WN1 461-1H	68-1JA5-Z	F01	3WN1 471-1H	68-1JA5-Z	F01
II	2000	800-2000	3WN1 561-1J	68-1JA5-Z	F01	3WN1 571-1J	68-1JA5-Z	F01
II	2500	1000-2500	3WN1 661-1K	68-1JA5-Z	F01	3WN1 671-1K	68-1JA5-Z	F01
III/1	3200	1260-3200	3WN1 761-1M	68-1JA5-Z	F01	3WN1 771-1M	68-1JA5-Z	F01
III/2	4000	1600-4000	3WN1 831-1P	68-1JA5-Z	F01	3WN1 871-1P	68-1JA5-Z	F01
IV	5000	2000-5000	-			3WN1 971-2Q	68-1JA5-Z	F01
IV	6300	2520-6300	-			3WN1 971-2S	68-1JA5-Z	F01

Overcurrent releases (see Catalog NS PS)

Functions with PROFIBUS

Order No. supplement

Additional price

Order No. supplement

Additional price

„azn“

see interfaces

R

R

„azng“

V

V

Accessories for 3WN1

Version	Accessories	
	Order No.	Price
Withdrawable frames with factory-filled connecting cable (SubD, 9-pole) for communication with T-pieces, without remote signalling of breaker position, with folding rails, without shutter, 4 auxiliary plugs without interlock to prevent opening of cubicle door or movement of circuit-breaker	Size for breakers	Order only with order code R39
I	3WN1 0 to 3WN1 4	3WX31 83-8CA00-1EA3-Z R39
II	3WN1 5 and 3WN1 6	3WX31 83-8DA00-1EA3-Z R39
III	3WN1 7 and 3WN1 8	3WX31 83-8GA00-1EA3-Z R39
IV	3WN1 9 to 5000 A	3WX31 83-8HA00-1EA3-Z R39
IV	3WN1 9 to 6300 A	3WX31 83-8UA00-1EA3-Z R39
Interfaces (one ① or ② required per breaker) ① DP/3WN1, 3WS1 for: - transmission of the phase currents I_{L1} , I_{L2} , I_{L3} , I_{Lmax} - tripped signal - warning signal ② ET200B (8DI, 8DO) for: - operational status signals (e.g. breaker on/off) - breaker on/off command. For more information about the ET200, see Catalogs ST 50 and ST 70	Terminal block (screw connection) Electronic block	3RK1 002-0BB00-0AA0 6ES7 193-0CA10-0XA0 6ES7 133-0BH01-0XB0
System manual Communication interconnectivity of 3VF, 3WN6, 3WN1/3WS1 circuit-breakers with PROFIBUS-DP	Nominal charge	E20001-P285-A644-V1
24 V DC power supply for DP/3WN1, 3WS1 interface Power consumption max. 800 mA including overcurrent release		e.g. 4AV2, see Part 14
PROFIBUS connector for connecting the interface to PROFIBUS; PROFIBUS bus cables, see Catalog ST PI "PROFIBUS & AS Interface Components on the Field Bus"		6ES7 972-0BB40-0XA0

Communication-Capable Circuit-Breakers Software

For other circuit-breakers (complete program) see Catalog NS PS

Description

Powerful software packages are available for convenient operation and to utilize the functionality of the circuit-breaker:

Win3WN6

offers the user the full functionality of the 3WN6 circuit-breakers for commissioning and for operation and monitoring at an attractive price.

Software features

- for type D, E/F, H, J/K, N, P releases,
- runs under Windows 95b and Windows NT 4.0,
- Win3WN6 communicates with the circuit-breaker either via an RS 232 interface (at the release instead of the manual operating device) or via the PROFIBUS-DP, SIMATIC S5, S7 or PC as master,
- Breaker status, overview of tripped signals (see diagram),
- Switching operations (password protected),
- Overview of operating data (e.g. phase currents),
- Simple setting of protection parameters (password protected).

Advantages of Win3WN6

- Saves time by efficient commissioning (set parameters once, then copy to various circuit-breakers),
- simple and rapid documentation of the circuit-breaker parameters at the press of a button,
- prevents/minimizes system shutdowns by targeted diagnosis with access to all circuit-breaker data at the click of a mouse,
- Cost saving compared with customer visualization by using a standard tool.

Win3WN6 main overview screen



SICAM LCC

allows the user to create a standard system visualization of the electrical distribution quickly, easily and at low cost. Application areas for SICAM LCC are small to medium sized systems.

Software features

for 3VF, 3WN6, 3WN1, 3WS1 circuit-breakers and SIMOCODE-DP motor protection and control unit,

- runs under Windows NT 4.0,
- configurations: SIMATIC S5, S7 or PC as Master, on PROFIBUS-DP,
- simple system overview structure,
- detail device diagrams with the most important information,

- indication and analysis of measurements (min/max/average value/graphical view, e.g. of currents),
- event lists,
- alarm lists,
- printing, documentation.
- call up other software (Win3WN6, see left; Win-SIMOCODE-DP, see Part 1),
- equipment parameters can be set (by calling Win3WN6, Win-SIMOCODE-DP),
- customer-specific enhancements are possible as Win CC .

Advantages of SICAM LCC

- easily-understood standard visualization (power distribution) of the system with display of all important information,
- simple and rapid system documentation at the press of a button,
- prevents/minimizes system shutdowns by targeted access to and diagnosis of all connected equipment,
- processing of measurements (e.g. currents) for optimization of plant power consumption can be used e.g. to reduce load peaks (energy management),
- Cost saving compared with customer visualization by using a standard tool.

See Part 1 for ordering information.

Other products in the SICAM-family on request.

Selection and ordering data

Version	Order No.	Price per packing	Packing
Win3WN6 Professional V1.0 Parametrization, operation, monitoring, testing via PROFIBUS-DP or RS 232, incl. online help, switchable between German/English For master systems: SIMATIC S5, S7, PROFIBUS-DP-capable PC For system (RS 232): laptop or PC Scope of supply: CD, interface cable and network adapter for RS 232	3WX36 47-6AC00		1
Win3WN6 Smart V1.0 Parametrization, operation, monitoring, testing via RS 232, incl. online help, switchable between German/English For system: laptop or PC Scope of supply: CD, interface cable and network adapter for RS 232	3WX36 47-6AB00		1
Upgrade Smart to Professional V1.0 Software package to upgrade from Win3WN6 Smart to Win3WN6 Professional Scope of supply: 3.5"-Diskette	3WX36 47-6AD00		1
Demo Win3WN6 Permits navigation through Win3WN6 screens without communication functionality Scope of supply: CD, incl. electronic manual, online help, switchable between German/English	3WX36 47-6AA00	Nominal charge	1

3VF2 to 3VF8 Circuit-Breakers

3- and 4-pole, up to 2500 A

For other circuit-breakers
(complete program)
see Catalog NS PS

Technical data

Rated short-circuit breaking capacity

Rated ultimate short-circuit breaking capacity I_{cu} and
rated service short-circuit breaking capacity I_{cs}

3VF circuit-breakers for motor protection

Type		3VF3		3VF5		3VF6	
Rated current I_n	A	205		315		500	
up to 220/240 V AC							
I_{cu}	kA	85	100	65	100	65	100
I_{cs}	kA	85	100	33	50	33	50
380/415 V AC							
I_{cu}	kA	40	70	40	65	40	65
I_{cs}	kA	40	70	20	33	20	33
up to 440 V AC							
I_{cu}	kA	25	40	35	50	35	50
I_{cs}	kA	13	20	18	25	18	25
up to 500 V AC							
I_{cu}	kA	18	25	30	42	30	42
I_{cs}	kA	9	13	15	21	15	21
up to 690 V AC							
I_{cu}	kA	12	14	20	25	20	25
I_{cs}	kA	6	7	10	13	10	13

3VF circuit-breakers for line protection

Type		3VF2	3VF3	3VF3 ¹⁾	3VF4	3VF5	3VF6	3VF6	3VF7	3VF8
Rated current I_n	A	100	160	160/200 ⁵⁾ /225 ⁵⁾	250	400	630	800	800/1250	1600/2000/ 2500
up to 220/240 V AC										
I_{cu}	kA	65	40	85	100	200	85	100	200	135
I_{cs}	kA	33	40	85	100	150	85	100	150	100
up to 380/415 V AC										
I_{cu}	kA	18	25	40	70	100	45	70	100	70
I_{cs}	kA	9	25	40	70	75	45	70	75	50
up to 440 V AC										
I_{cu}	kA	–	–	25	40	65 ¹⁾	25	50	80	35
I_{cs}	kA	–	–	13	20	33 ¹⁾	13	25	40	18
up to 500 V AC										
I_{cu}	kA	–	–	18	25	50 ¹⁾	20	42	65	30
I_{cs}	kA	–	–	9	13	25 ¹⁾	10	21	33	15
up to 690 V AC										
I_{cu}	kA	–	–	12 ¹⁾	14 ¹⁾	18 ¹⁾⁵⁾	14	18	22	20
I_{cs}	kA	–	–	6 ¹⁾	7 ¹⁾	9 ¹⁾⁵⁾	7	9	11	10

3VF circuit-breakers for starter combinations 3VF non-automatic circuit-breakers

Type		3VF3	3VF4	3VF5	3VF6	3VF7	3VF8
Rated current I_n	A	160/225 ⁴⁾	250 (200 ²⁾)	315/400	500/630	800/1250	1600/2000
up to 220/240 V AC							
I_{cu}	kA	100	85 ³⁾	100	65 ³⁾	100	85 ³⁾
I_{cs}	kA	100	85 ³⁾	100	33 ³⁾	50	33 ³⁾
up to 380/415 V AC							
I_{cu}	kA	70	40 ³⁾	70	40 ³⁾	65	40 ³⁾
I_{cs}	kA	70	40 ³⁾	70	20 ³⁾	33	20 ³⁾
up to 440 V AC							
I_{cu}	kA	40	25 ³⁾	50	35 ³⁾	50	35 ³⁾
I_{cs}	kA	20	13 ³⁾	25	18 ³⁾	25	18 ³⁾
up to 500 V AC							
I_{cu}	kA	25	20 ³⁾	42	30 ³⁾	42	30 ³⁾
I_{cs}	kA	13	10 ³⁾	21	15 ³⁾	21	15 ³⁾
up to 690 V AC							
I_{cu}	kA	14	14 ³⁾	18	20 ³⁾	25	20 ³⁾
I_{cs}	kA	7	7 ³⁾	9	10 ³⁾	13	10 ³⁾

- 1) 3VF3 circuit-breaker with rated currents I_n up to 40 A;
Maximum rated operational voltage $U_e = 415$ V AC.
3VF31 13–1....., 3VF31 13–2....., 3VF31 14–1..... and 3VF31 14–2.....
circuit-breakers can be used up to $U_e = 500$ V AC.
- 2) Values in brackets for circuit-breakers for starter combinations.
- 3) Values apply to non-automatic circuit-breakers.
- 4) 225 A only for non-automatic circuit-breakers.
- 5) 205 A, 225 A: at 690 V AC I_{cu} is 14 kA, I_{cs} 7 kA.