



CITEL

SURGE PROTECTORS

FOR

Wind turbines

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Windmill generators are equipment especially exposed to the risks of lightning and transitory overvoltages : due to their height and to their location on high or/and isolated spots, the probability of direct lightning strikes is much higher than for traditional installations. In case of lightning strike, windmill generators are usually designed to drain the lightning current in a safe way, but internal equipments

(generator, management, control/commands, sensors....) will be submitted to transient surges induced by the phenomena. In order to ensure the necessary operation and to improve the windmill generator's global reliability, surge protectors are necessary and have to be installed at the entrance of the various sensitive equipments.

OBSTRUCTION LIGHTING



LED OBSTA FLASH



DATALINES



DLU / DLA

Datalines SPD

230V / 400V



DDC30C
Type 2 SPD
48V DC



DAC40C-11
Single-phase
Type 2 SPD

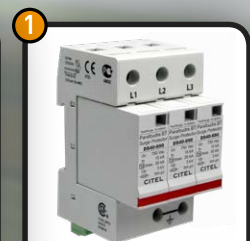


DAC50S-30
3-phase Type 2 SPD
for 400V

690V



DU33S-1000G/WD
3-phase Type 2 SPD - 690V



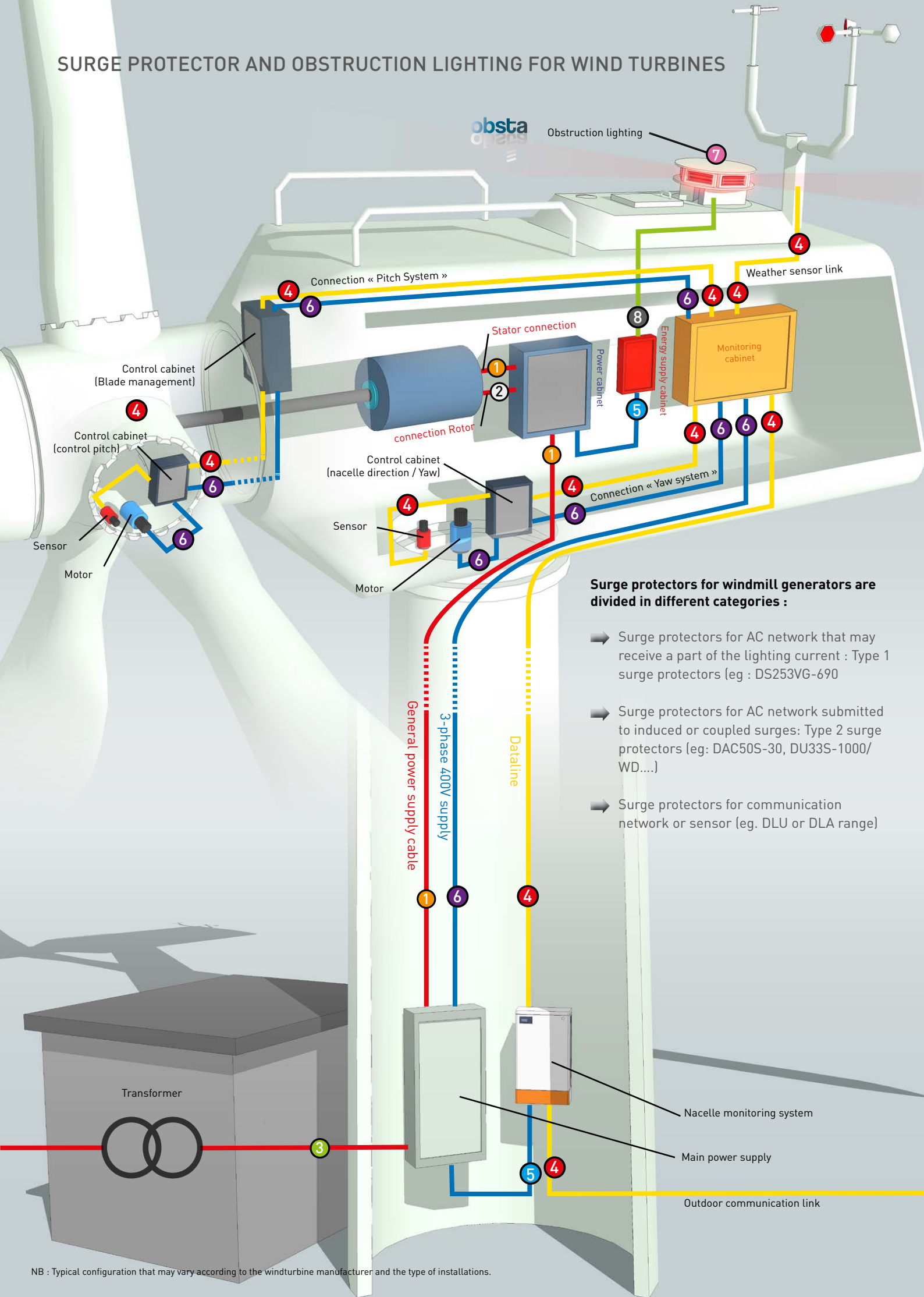
DS43S-690/WD
AC Type 2 SPD



DS253VG-690
3-phase Type 1 SPD 690V



SURGE PROTECTOR AND OBSTRUCTION LIGHTING FOR WIND TURBINES



Surge protectors for windmill generators are divided in different categories :

- ➔ Surge protectors for AC network that may receive a part of the lightning current : Type 1 surge protectors (eg : DS253VG-690)
- ➔ Surge protectors for AC network submitted to induced or coupled surges: Type 2 surge protectors (eg : DAC50S-30, DU33S-1000/WD....)
- ➔ Surge protectors for communication network or sensor (eg. DLU or DLA range)

NB : Typical configuration that may vary according to the windturbine manufacturer and the type of installations.

3-PHASE SURGE PROTECTORS



DU33S-1000/WD/G



DS43S-690/WD



DAC50S-30



DS253VG-690

Citel range	DU33S-1000/WD/G	DS43S-690/WD	DAC50S-30
Network	3-phase + Neutral 400/690 V	3-phase 400/690 V	3-phase 230/400 V
SPD type	Type 2	Type 2	Type 2
Nominal discharge current	15 kA	20 kA	20 kA
Maximal discharge current	100 kA	40 kA	50 kA
Connection	Screw terminal 35 mm ² max	Screw terminal 35 mm ² max	Screw terminal 25 mm ² max
Mounting	DIN Rail	DIN Rail	DIN Rail
End of life	disconnection + Indicator	disconnection + Indicator	disconnection + Indicator
Remote signalling	Yes	Yes	Yes
Dimensions (width)	144 mm	54 mm	54 mm

Référence CITELE	DS253VG-690
Network	3-phase 400/690 V
SPD type	Type 1+2+3
Nominal discharge current	30 kA
Maximum lightning current 10/350µs	75 kA
Maximal discharge current	100 kA
Connection	Screw terminal 35 mm ² max
Mounting	DIN Rail
End of life	disconnection + Indicator
Remote signalling	Yes
Dimensions (width)	270 mm

SINGLE-PHASE SURGE PROTECTOR



DAC40C

Référence CITELE	DAC40C-11-275
Network	Single-phase 230 V
SPD type	Type 2
Nominal discharge current	20 kA
Maximal discharge current	40 kA
Connection	Screw terminal 25 mm ² max
Mounting	DIN Rail
End of life	disconnection + Indicator
Remote signalling	Option [DAC40CS-11-275]
Dimensions (width)	18 mm

48V DC SURGE PROTECTOR



DDC30C

CITEL range	DDC30C-20-65
DC power supply	48V DC
SPD type	Type 2
Nominal discharge current	15 kA
Maximal discharge current	30 kA
Connection	Screw terminal 10 mm ² max
Mounting	DIN Rail
End of life	SPD disconnection + Indicator On
Remote signalling	Option (DDC30CS-20-65)
Dimensions (width)	18 mm

DATALINE SURGE PROTECTORS



DLA



DLU

CITEL range	DLA range	DLU range
Format	Pluggable SPD	Monoblock SPD
Typical application	Datalines	Datalines
Configuration	1 pair + shield	1 pair + shield
Nominal line voltage	12 V, 24 V, 150 V	12 V, 24 V, 150 V
Maximum line current	300 mA	300 mA
Nominal discharge current	5 kA	5 kA
Maximal discharge current	20 kA	20 kA
Mounting	DIN Rail	DIN rail

OBSTA OBSTRUCTION LIGHTING



OBSTA P/N	Main characteristics	Power supply	Max. consumption
113720	White only	48 Vdc	< 75 W
113721	Red only	48 Vdc	< 25 W
113722	Bi color	48 Vdc	< 75 W
113723	White only	120/230 Vac	< 75 W
113724	Red only	120/230 Vac	< 25 W
113725	Bi color	120/230 Vac	< 75 W

Main characteristics	Luminous output		Color		Beam spread		Flashes per minute
	Day	Night	Day	Night	Vertical	Horizontal	
Red only	20 000 Cd	2000 Cd	White	Red	3°	360°	40
White only	20 000 Cd	2000 Cd	White	White			
Bi color	20 000 Cd	2000 Cd	White	Red			

Head office

France
Tél. : +33 1 41 23 50 23
e-mail : contact@citel.fr
Web : www.citel.fr

Factory

Reims
Tél. : +33 3 26 85 74 00
e-mail : contact@citel.fr

Germany

Bochum
Tél. : +49 234 54 72 10
e-mail : info@citel.de
Web : www.citel.de

USA

Miramar
Tel : (954) 430 6310
e-mail : info@citel.us
Web site : www.citel.us

China

Sales department
Shanghai
Tél. : +86 21 58 12 25 25
e-mail : info@citelsh.com
Web : www.citel.cn

Factory

Tél. : +86 21 58 12 80 67

Russia

Moscou
Tél. : +7 499 391 47 64
e-mail : info@citel.ru
Web : www.citel.ru

India

New Delhi
Tél. : +91 11 2626 12 38
e-mail : indiacitel@gmail.com
Web : www.citel.in

Thailand

Bangkok
Tél. : +66 (0) 2 104 9214
Web : www.citel.fr

