

## Fully Integrated Ready-to-use System for Telecom

### PMG-DCs

Permanent Magnet Generator  
+ DCs System\*  
+ Actuator kit



### PMG-DCh

Permanent Magnet Generator  
+ DCh System\*  
+ Actuator kit



#### PMG-DCs/DCh includes:

**Permanent Magnet Generator:** variable speed, with built-in rectifier bridges directly granting a DC output, bearingless and brushless.

**DCs/DCh System:** controller + current sensors + contactor.

**Actuator kit:** to regulate the engine revolutions.

The systems work at **variable speed** with the aim of consistently adjusting the engine speed according to the power demand of load and battery. The output voltage is directly connected to the engine speed.

Each PMG-DCs/DCh is developed according to the specific engine model, gen-set control unit and battery pack, as it works as a battery charger thanks to the controller's smart battery management.

The settings are adjustable through a programmer, a USB pen drive or via serial connection (from the gen-set control unit).

The PMG-DCs is **Hybrid compatible** as it can host one or multiple 3,5kW DC/DC sun converter modules to work in parallel with the renewable energy source.

**Redundancy and load sharing** between two complete gen-sets operating in parallel.

Digital inputs/outputs available for interfacing with other gen-set devices such as air conditioners, thermostats, water refill systems and so on (available on request).

\*DCs system consists of a metal structure on which all the components are assembled and tested, whereas DCh is supplied as a kit of loose components (previously tested), to be assembled by the customer.

#### Technical characteristics

**Nominal voltage** 48Vdc

**Output voltage** 56Vdc

**Protection** IP 21 (PMG)  
IP 00 (DCs - DCh System)

**Voltage accuracy** ± 100 mV

**Battery charger current accuracy** ± 1 %

**Communication ports** RS232 / RS485 / CAN-bus

**Operating temperature** -10°C / +60°C (derating above 50°C)

#### Safety features:

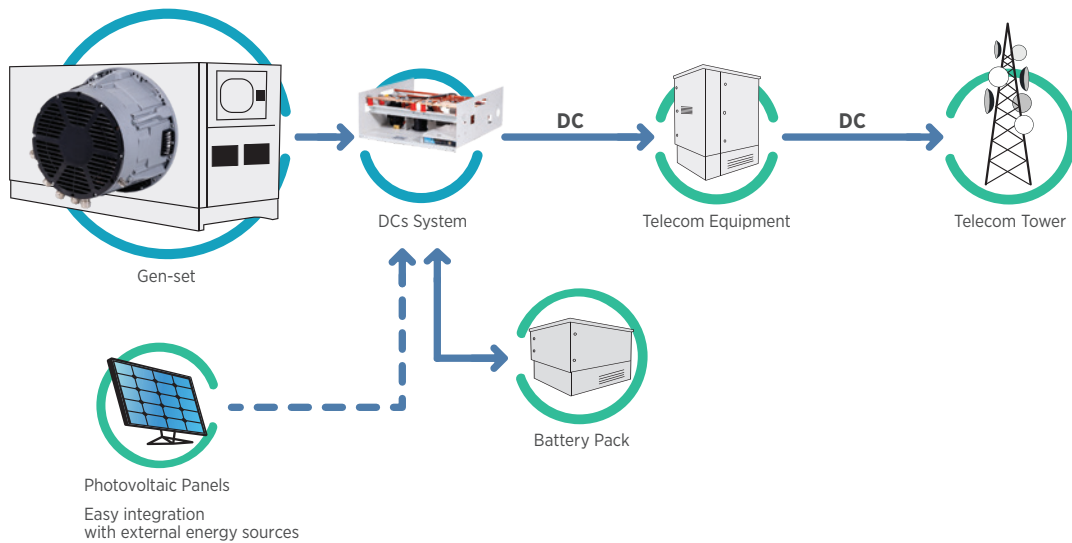
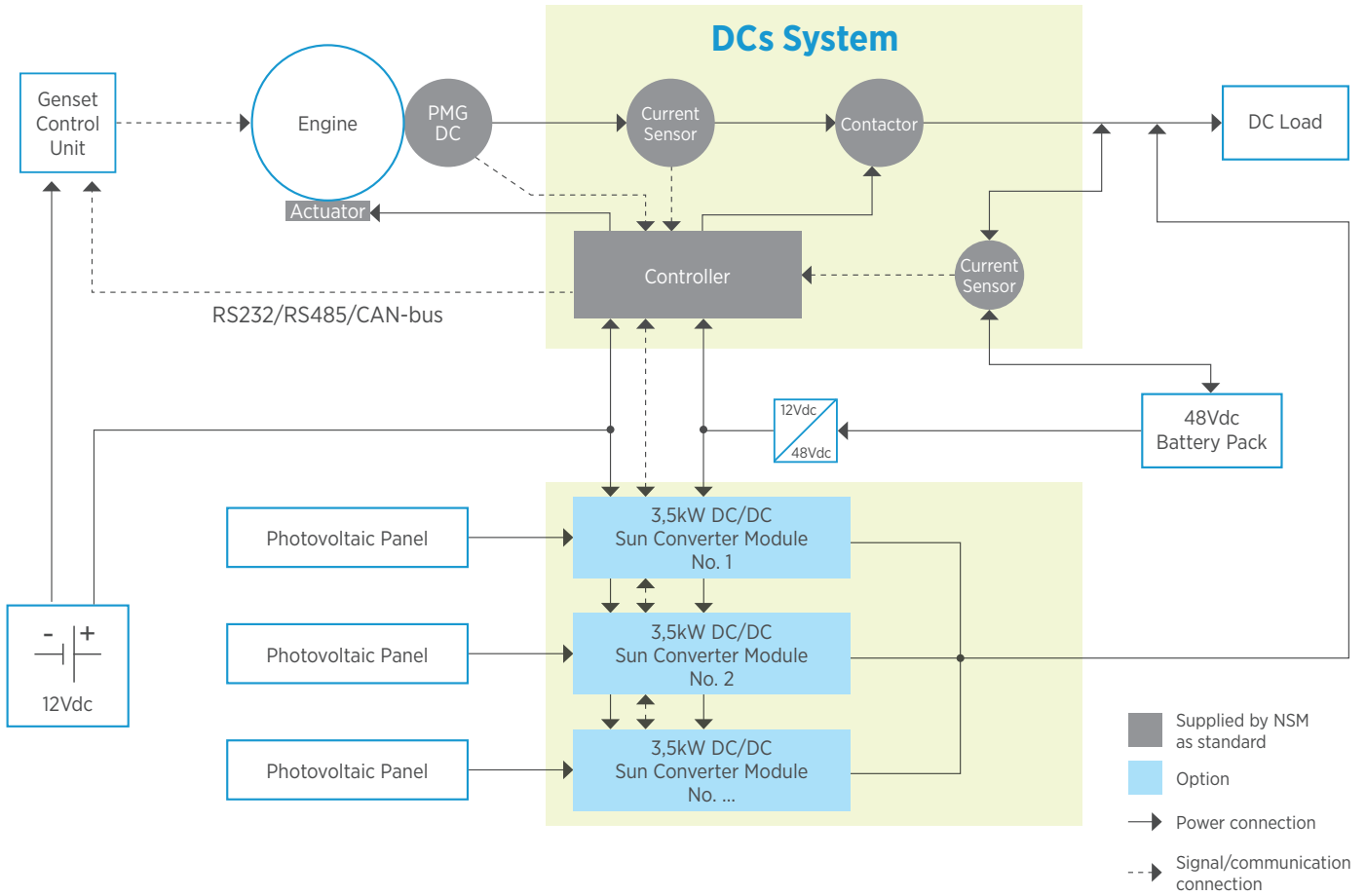
- Output short circuit protection
- Output reverse voltage protection (battery) on request
- Under and over-voltage protection
- Under and over-speed protection
- Over-temperature protection
- Overload protection

### 56Vdc

Model	Max Power		Max Current		Max Power		Max Current		Weight			
	[kW]	[A]	[kW]	[A]	[kW]	[A]	[kW]	[A]	PMG cone	PMG SAE	DCs System	Actuator
									[kg]	[kg]	[kg]	[kg]
	1500rpm		2000rpm		2400rpm		3000rpm					
PMG-DCs/DCh 150SC	3,0	54	4,0	71	4,8	86	6,0	107	11,5	---	9	1,6
PMG-DCs/DCh 185SC	4,5	80	6,0	107	7,5	134	9,0	160	17	16	9	1,6
PMG-DCs/DCh 185SF	7,5	134	8,4	150	9,0	160	9,0	160	21	20	9	1,6
PMG-DCs/DCh 185PF	7,5	134	11,0	196	13,8	246	16,8	300	---	22	9	1,6
PMG-DCs/DCh 295RB	13,0	232	16,0	286	18,5	330	22,0	393	---	41,5	9	1,6
PMG-DCs/DCh 295RF	19,0	339	24,0	429	28,0	500	33,6	600	---	49,5	9	1,6
PMG-DCs/DCh 295PH	28,0	500	30,8	550	32,5	580	33,6	600	---	63,5	9	1,6

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Block Diagrams

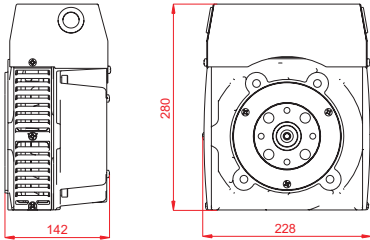


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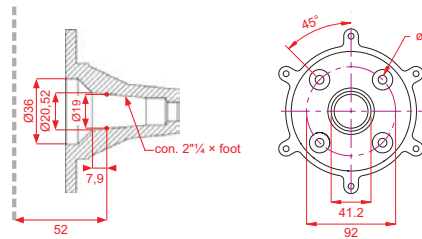
## Overall Dimensions

### CONE

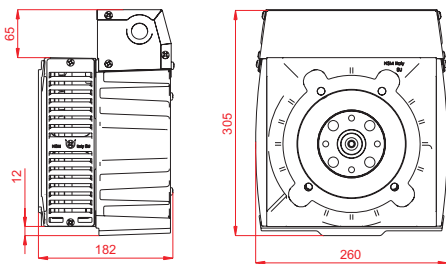
#### PMG 150



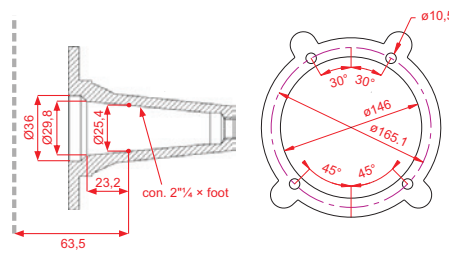
#### J609a C 19



#### PMG 185



#### J609b C 25,4 C 35

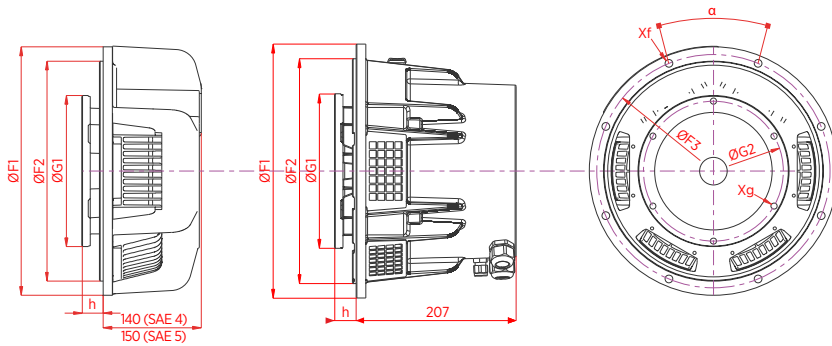


Cone	J609a	J609b
PMG 150	x	x
PMG 185		x

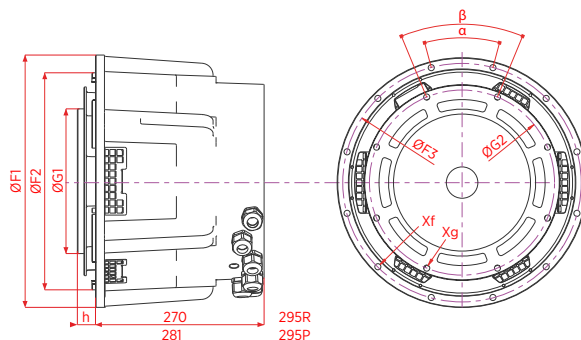
### SAE

#### PMG 185

185S- 185P-



#### PMG 295 295P- 295R-



	SAE	Flange				
		ØF1	ØF2	ØF3	Xf	α
		[mm]				
PMG 185S-	5	363	314,33	333,40	Ø11 (8)	45°
	4	403	361,95	381	Ø11 (12)	30°
PMG 185P-	5	355	314,33	333,40	Ø11 (8)	45°
	4	403	361,95	381	Ø11 (12)	30°
PMG 295R-	4	425	361,95	381	Ø11 (8)	30°
PMG 295P-	4	425	361,95	381	Ø11 (12)	30°
	3	450	409,58	428,63	Ø11 (12)	30°

SAE	Joint				
	ØG1	ØG2	h	Xg	β
	[mm]				
6,5	215,90	200,02	30,2	Ø9 (6)	60°
7,5	241,30	222,25	30,2	Ø9 (8)	45°
11,5	352,42	333,37	39,6	Ø11 (8)	45°

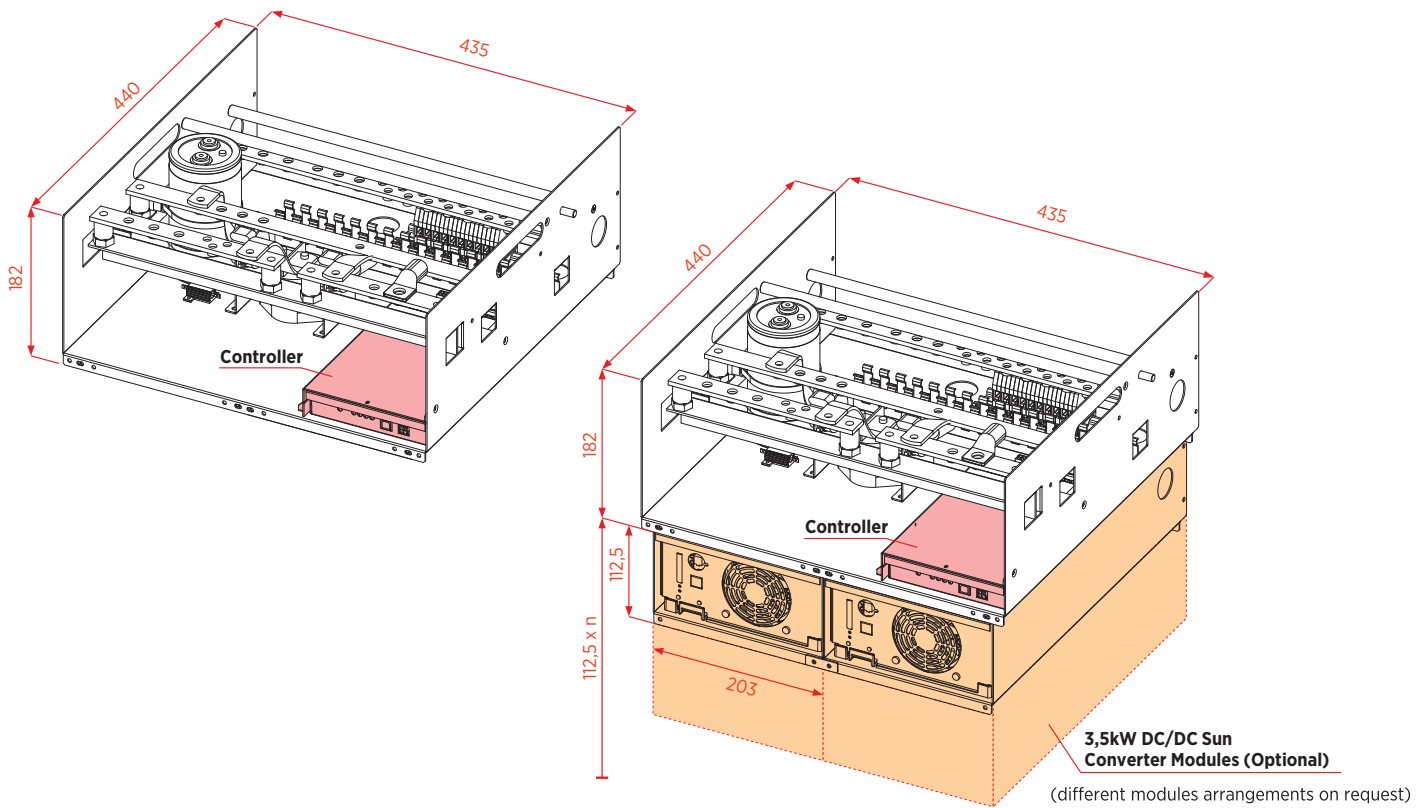
	SAE	6,5	7,5	11,5
		PMG 185	5	X
	4	X	X	
PMG 295	4	X	X	
	3			X

PMG 185 SAE 3 and PMG 295 SAE 5 available on request

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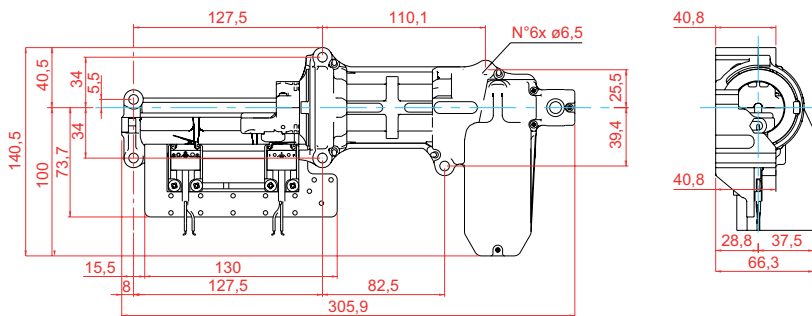
### DCs System



### DCh System:

- logic board
- 2 current sensors + cables (max length 1m)
- contactor (optional)

### Linear Actuator



Technical data not binding: NSM reserves the right to modify the contents without prior notice.

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