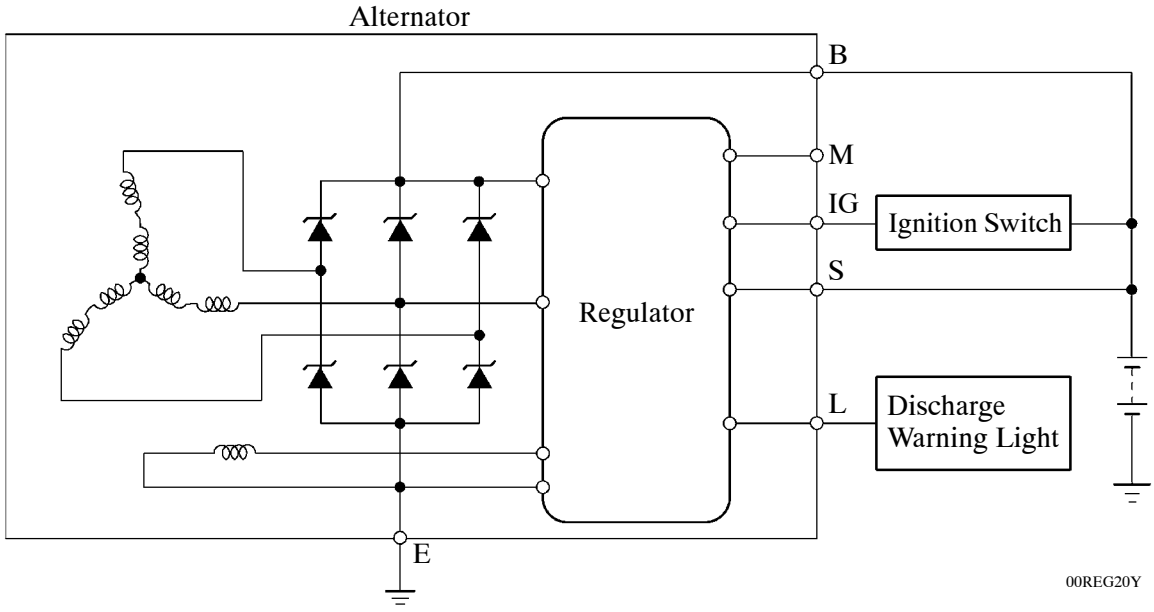
▶ Wiring Diagram ◀



■STARTING SYSTEM

1. General

- A compact and lightweight PS (Planetary reduction-Segment conductor motor) type starter is used.
- A conventional planetary reduction type starter is used.
- A planetary reduction type starter with an interpolar magnet is used. The structure of the interpolar magnet is the same as that of the interpolar magnet used in the PS type starter described above.

▶ Specifications ◀

Starter Type	P1.0*1	RA1.4*2	PS1.6*3	DW1.7*4
	Planetary Reduction Type	←	PS Type	Planetary Reduction Type with Interpolar Magnet
Supplier	DENSO	←	←	BOSCH
Rating Output	1.0 kW	1.4 kW	1.6 kW	1.7 kW
Rating Voltage	12 V	←	←	←
Length*5	157 mm (6.2 in.)	132 mm (5.2 in.)	127 mm (5 in.)	153 mm (6 in.)
Weight	3100 g (6.8 lb)	3650 g (8.0 lb)	2800 g (6.2 lb)	3300 g (7.3 lb)
Rotation of Direction*6	Clockwise	←	←	←

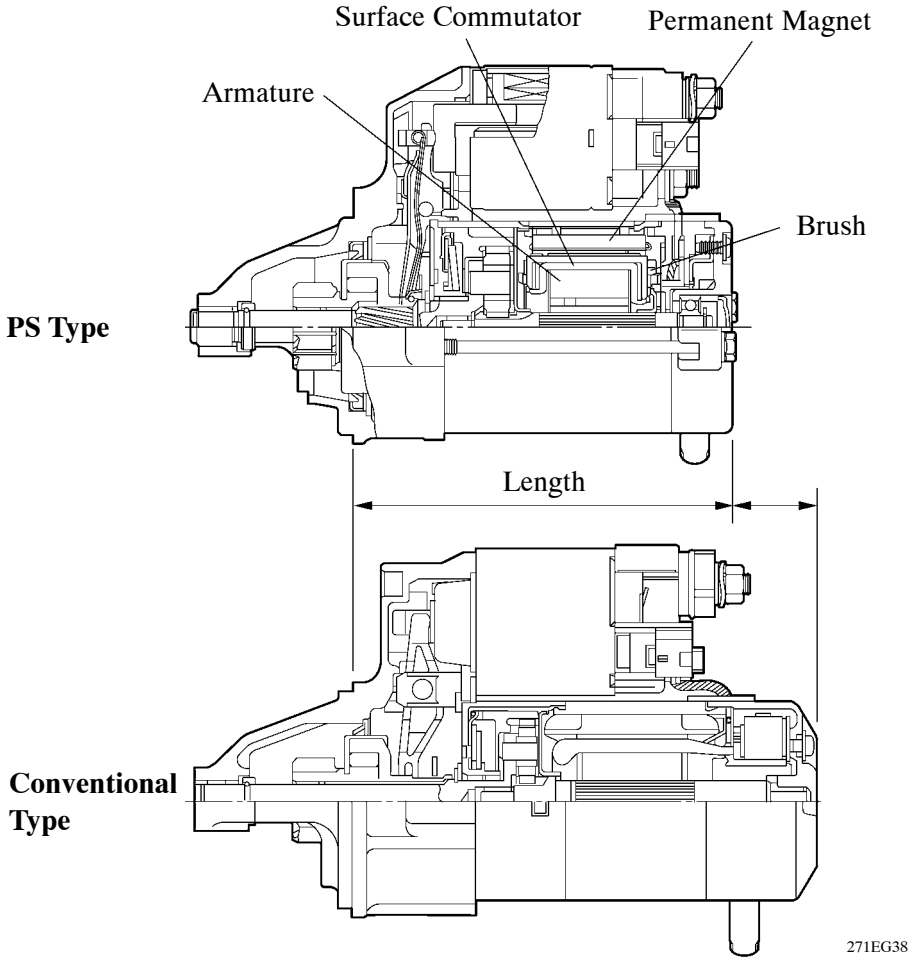
*1: Except models for South Africa with 1TR-FE engine
*2: Models for G.C.C. countries with 2TR-FE engine
*3: Models for Thailand, Australia and General countries
*4: Models for South Africa, Central and South America, and ANCOM
*5: Length from mounted area to rear end of the starter
*6: Viewed from pinion side

EG

2. PS (Planetary reduction-Segment conductor motor) Starter

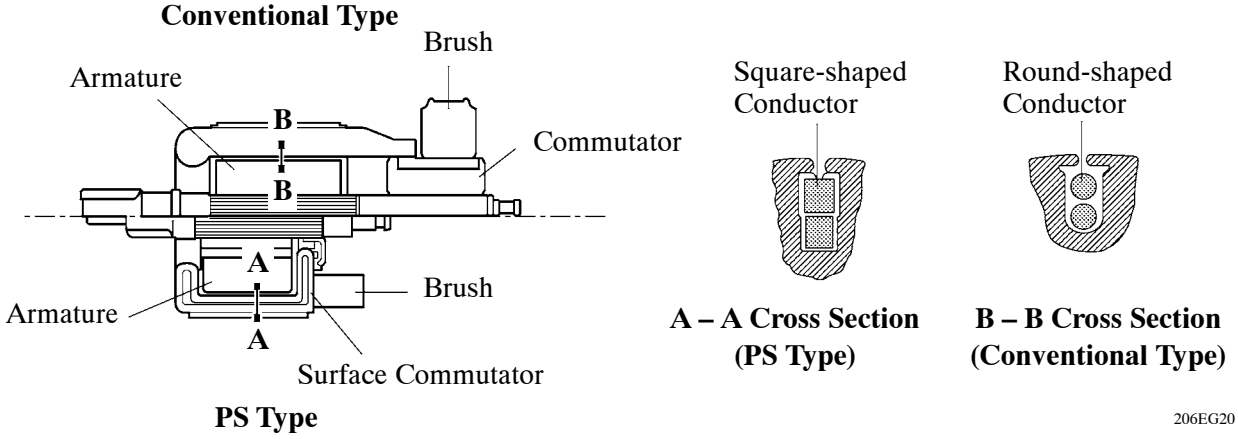
General

- Because the PS type starter contains an armature that uses square-shaped conductors, and its surface functions as a commutator, its output torque has been improved and its overall length has been reduced.
- In place of the field coil used in the conventional type starter, the PS type starter uses two types of permanent magnets: main magnets and interpolar magnets. The main magnets and interpolar magnets have been efficiently arranged to increase the magnetic flux and to shorten the length of the yoke.



Construction

- Instead of constructing the armature coil with conventional type round-shaped conductor wires, the PS type starter uses square conductors. With this type of construction, the same conditions that are achieved by winding numerous round-shaped conductor wires can be achieved without increasing the mass. As a result, the output torque has been increased, and the armature coil has been made more compact.
- Because the surface of the square-shaped conductors that are used in the armature coil functions as a commutator, the overall length of the PS type starter has been shortened.



- Instead of the field coils used in the conventional type starter, the PS type starter uses two types of permanent magnets: the main magnets and the interpolar magnets. The main and interpolar magnets are arranged alternately inside the yoke, allowing the magnetic flux generated between the main and interpolar magnets to be added to the magnetic flux generated by the main magnets. In addition to increasing the amount of magnetic flux, this construction shortens the overall length of the yoke.

