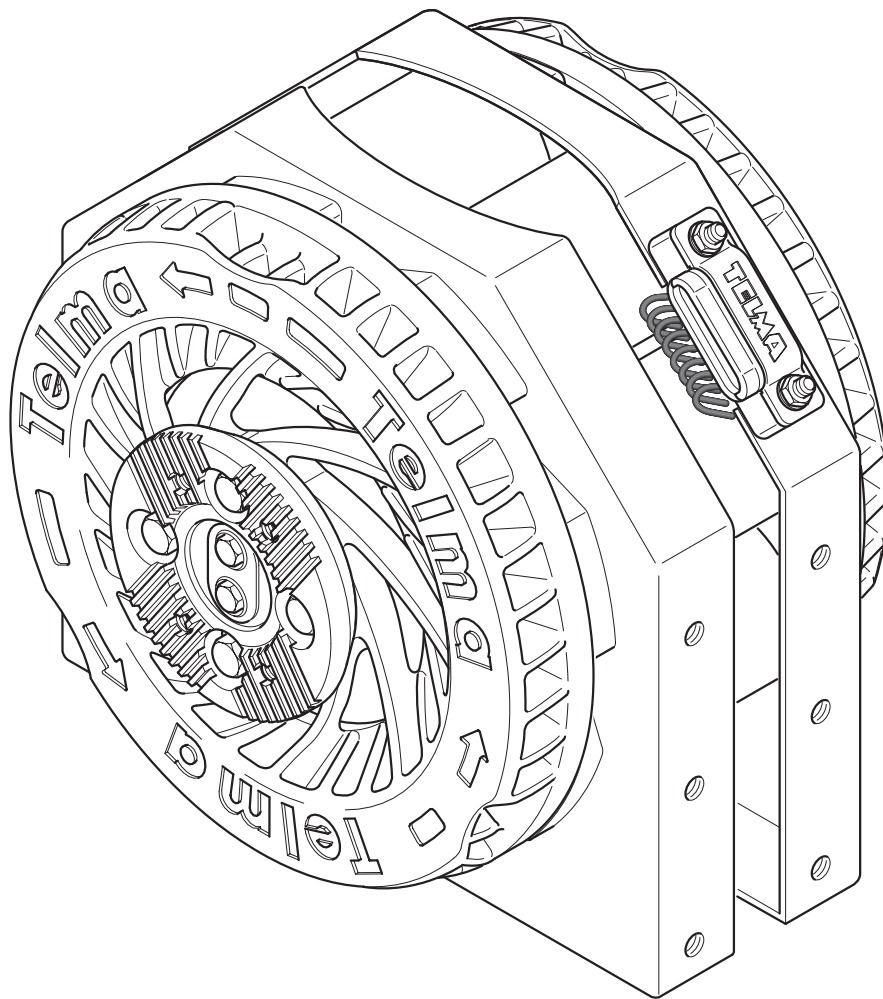




## *TECHNICAL SPECIFICATIONS*



### *AD 72 – 00 Retarder*



## Identification

Code N° : B E 2 0        

AD 72-00 \_\_\_\_\_ Coupling index (see on page 5)

Variant \_\_\_\_\_ Voltage index 1 = 12 V  
2 = 24 V

## Specifications

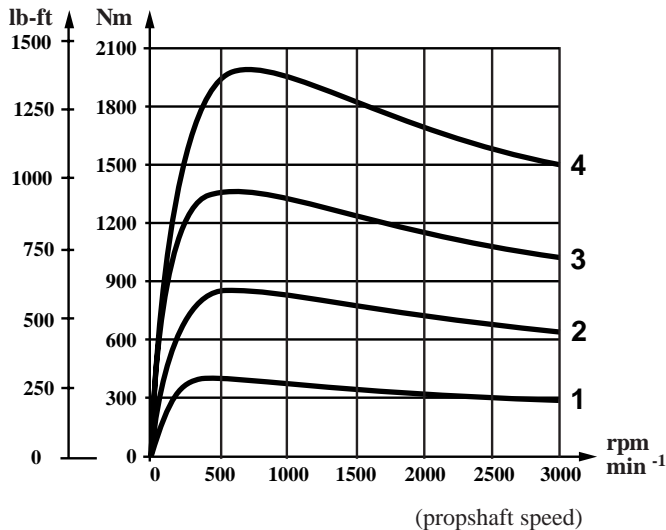
MASS	Total : 230 kg 507 lb	Rotors : 78 kg 172 lb	Stator : 152 kg 335 lb
RANGE of application * G.C.W.	17 / 22 metric tons		
Maximum BRAKING TORQUE	2000 Nm / 1474 lb-ft		
Rotors INERTIA	1.9 kgm <sup>2</sup> / 45 lb-ft <sup>2</sup>		
Maximum ROTATIONAL SPEED	3000 min <sup>-1</sup>		
Maximum TRANSMISSIBLE TORQUE	31600 Nm / 23300 lb-ft		

\* for specific applications, consult our Technical Department

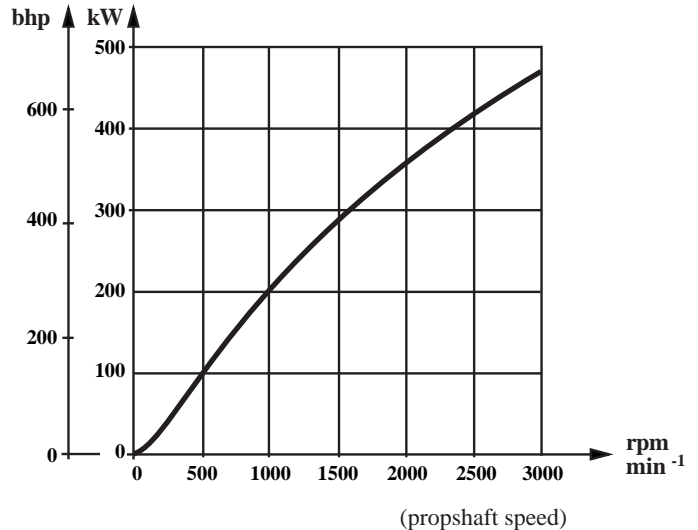
## Curves

### TORQUE

1-2-3-4 : control stages

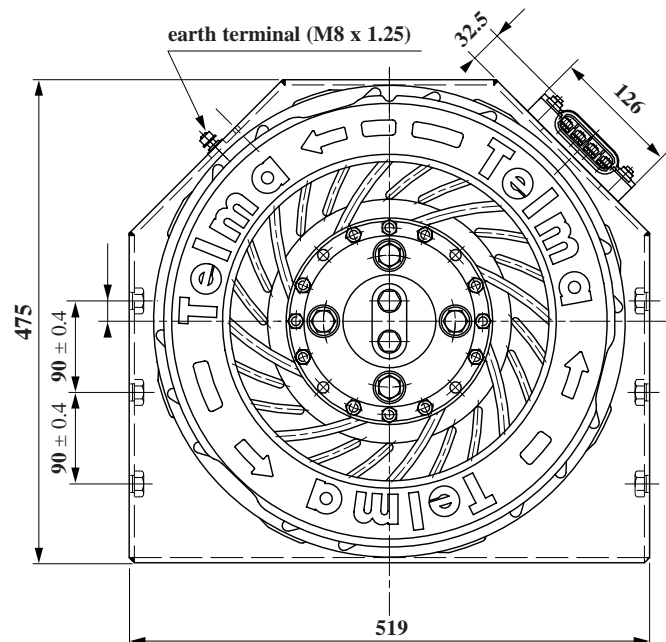
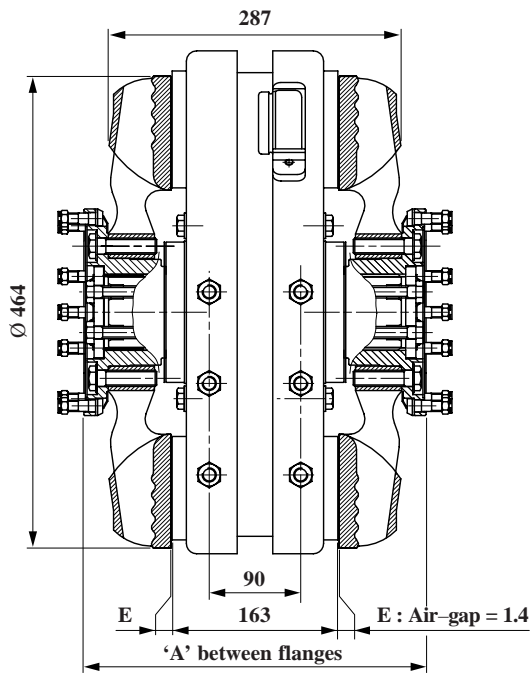


### POWER



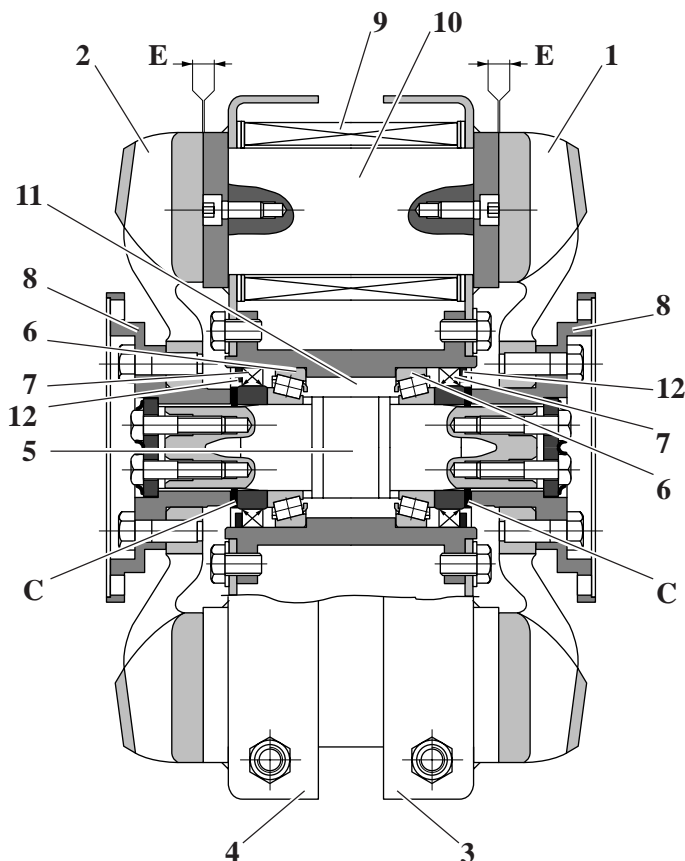


← fitting direction towards drive axle



NOTE : all the dimensions are given in millimeters 1 mm = .039 inch

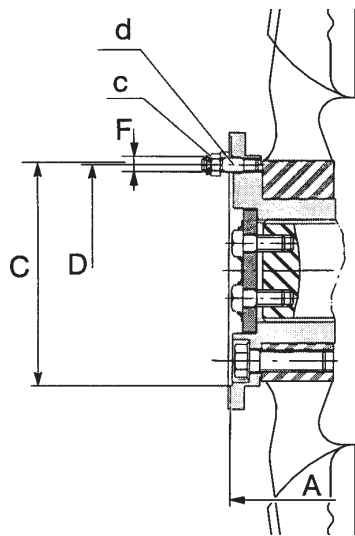
## Cross-section view



- C – Air-gap adjusting shims
- E – Air-gap
- 1 – Front rotor
- 2 – Rear rotor (axle side)
- 3 – Front housing
- 4 – Rear housing
- 5 – Shaft
- 6 – Bearing
- 7 – Lip seal
- 8 – Coupling flange
- 9 – Coil
- 10 – Pole
- 11 – Hub
- 12 – Circlips

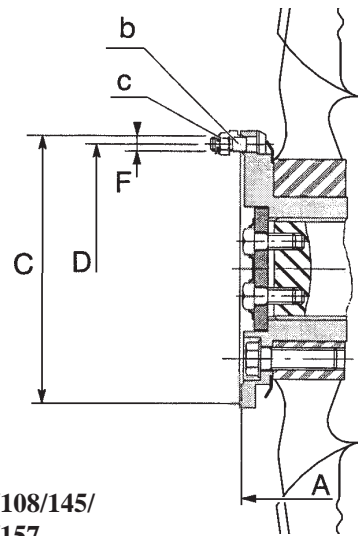


Cross-section views



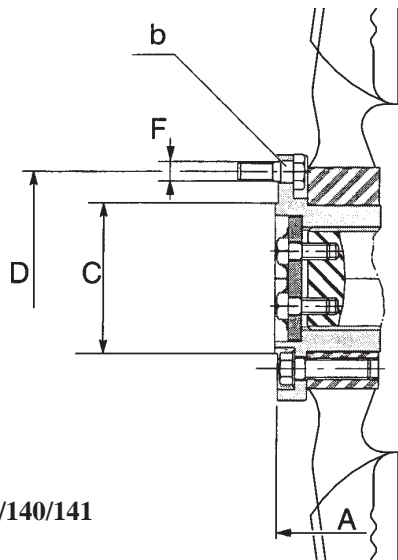
index 106/158

Figure 1



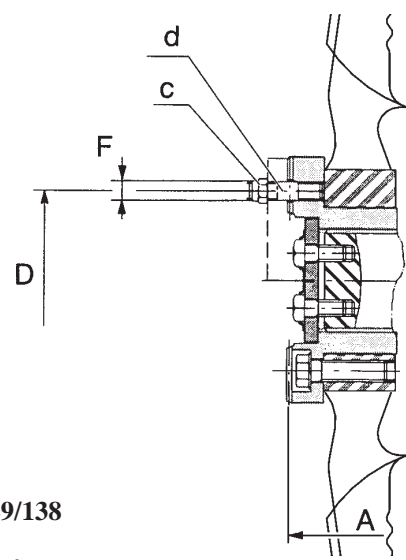
indexes 107/108/145/  
152/157

Figure 2



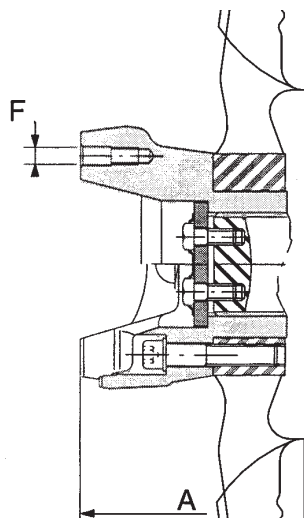
indexes 120/140/141

Figure 3



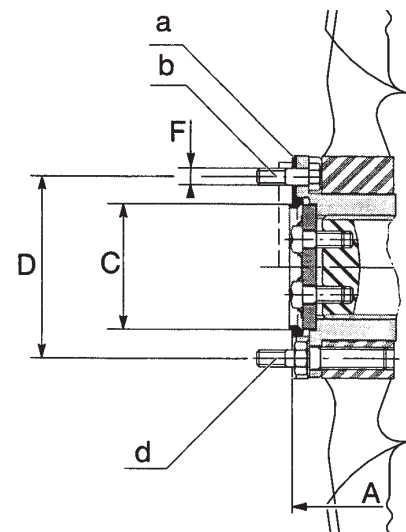
indexes 129/138

Figure 4



indexes 136/137

Figure 5



index 117

Figure 6



## Specifications

A	C	D	E	F	SUPPLIED FASTENERS	Fig.	Rotor	
							4 screws	5 screws
<i>index 106 : SAE 1600 – metric thread</i>						<i>Ref. 24 V : BE202106</i>		
330.4	168.25	155.52	8	M10x1.00	studs (d) nuts (c)	1	x	
<i>index 107 : SAE 1700 – metric thread</i>						<i>Ref. 24 V : BE202107</i>		
333.6	196.85	184.12	8	M10x1.00	screws (b) nuts (c)	2	x	
<i>index 108 : SAE 1800 – metric thread</i>						<i>Ref. 24 V : BE202108</i>		
333.6	196.85	184.12	12	M11x1.50	screws (b) nuts (c)	2	x	
<i>index 117 : DIN Ø 150 mm</i>						<i>Ref. 24 V : BE202117</i>		
330.4	90	130	8	M12x1.50	adapter (a) screws (b) studs (d)	6	x	
<i>index 120 : DIN Ø 180 mm</i>						<i>Ref. 24 V : BE202120</i>		
330.4	110	155.5	8	M14x1.50	screws (b)	3	x	
<i>index 129 : Ø 150 mm cross – serration</i>						<i>Ref. 24 V : BE202129</i>		
337.4		130	4	M12x1.50	studs (d) nuts (c)	4	x	
<i>index 136 : SCANIA P400</i>						<i>Ref. 24 V : BE202136</i>		
478.4		131.9x85	4	M12x1.75		5	x	
<i>index 137 : SCANIA P500</i>						<i>Ref. 24 V : BE202137</i>		
478.4		125.7x95	4	M12x1.75			5	x
<i>index 138 : 70 ° Ø 180 mm cross – serration</i>						<i>Ref. 24 V : BE202138</i>		
337.4		150	4	M14x1.50	studs (d) nuts (c)	4	x	
<i>index 140 : DIN Ø 180 mm</i>						<i>Ref. 24 V : BE212140</i>		
330.4	110	155.5	10	M16x1.50	screws (b)	3	x	
<i>index 141 : DIN Ø 165 mm</i>						<i>Ref. 24 V : BE202141</i>		
330.4	95	140	8	M16x1.50	screws (b)	3	x	
<i>index 145 : SAE 1700 – reinforced – metric thread</i>						<i>Ref. 24 V : BE202145</i>		
333.6	196.85	184.12	12	M10x1.00	screws (b) nuts (c)	2	x	
<i>index 152 : SAE 1700 – reinforced – metric thread</i>						<i>Ref. 12 V : BE201152</i>	<i>Ref. 24 V : BE202152</i>	
333.6	196.85	184.12	8	9.52	screws (b) 3/8" 24 UNF	2	x	
<i>index 157 : SAE 1800 – reinforced – metric thread</i>						<i>Ref. 12 V : BE201157</i>		
333.6	196.85	184.12	12	11.1	7/16" 20 UNF screws (b) nuts (c)	2	x	
<i>index 158 : SAE 1800 – reinforced – metric thread</i>						<i>Ref. 24 V : BE202158</i>		
333.6	168.22	155.52	8	9.52	3/8" 20 UNF studs (d) nuts (c)	2	x	

- A – Distance between both coupling flanges or between both SCANIA universal joints (see on page 3)
- C – Centering diameter
- D – Pitch circle diameter or distance between the securing holes on SCANIA coupling
- E – Number of securing screws
- F – Specifications of the securing screws

NOTE : For all other couplings, please consult our Technical Department.  
All the dimensions are given in millimeters 1 mm = .039 inch



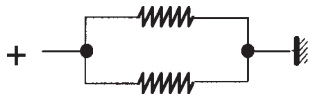
VOLTAGE (according to vehicle equipment)	12 V	24 V
Voltage INDEX	1	2
RESISTANCE per CIRCUIT ( $\pm 5\%$ ) at 20 °C (68 °F)	0.2 $\Omega$	0.8 $\Omega$
RESISTANCE per COIL ( $\pm 5\%$ ) at 20 °C (68 °F)	0.4 $\Omega$	
INSULATION RESISTANCE	> 1 M $\Omega$	
Nominal average AIR-GAP	1.4 <sup>0</sup> <sub>-0.15</sub> mm (.041 / .047 inch)	

## 12 V specifications

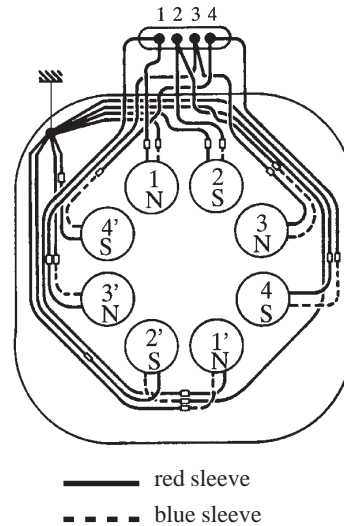
**CURRENT CONSUMPTION**  
(at 20 °C (68 °F) according to control stage)

STAGE	1	2	3	4
CURRENT $\pm 5\%$ (A)	60.5	121	181.5	242

**LAYOUT OF ONE STAGE**



**REAR SIDE**



## 24 V specifications

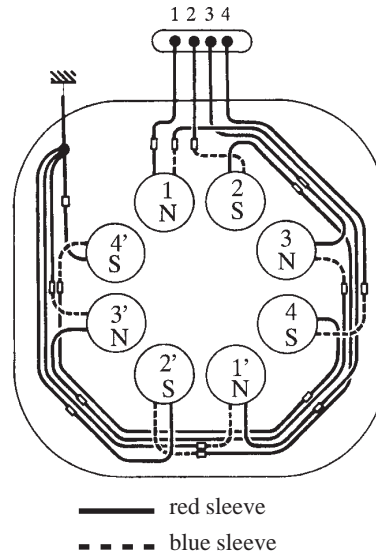
**CURRENT CONSUMPTION**  
(at 20 °C (68 °F) according to control stage)

STAGE	1	2	3	4
CURRENT $\pm 5\%$ (A)	30.2	60.5	90.7	121

**LAYOUT OF ONE STAGE**

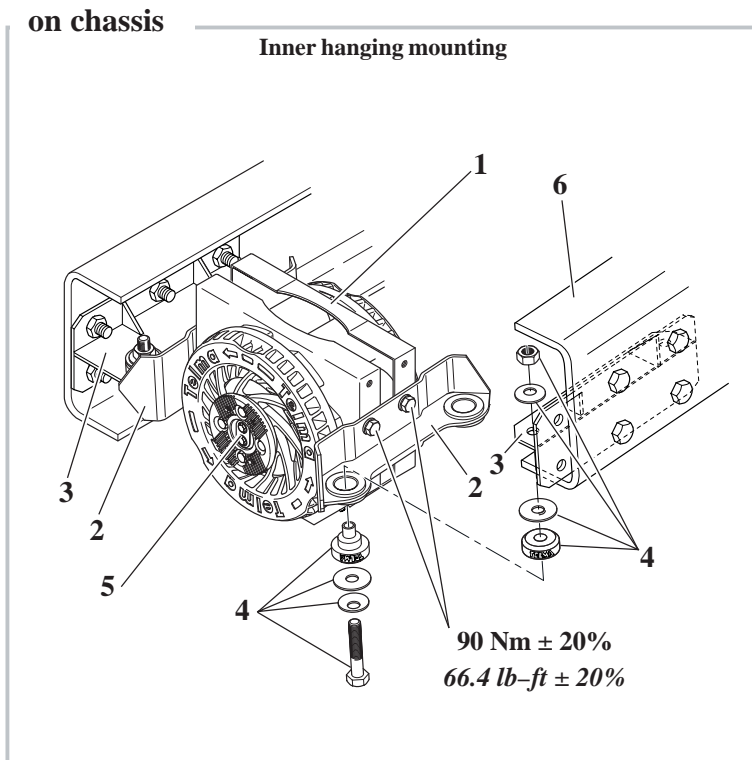
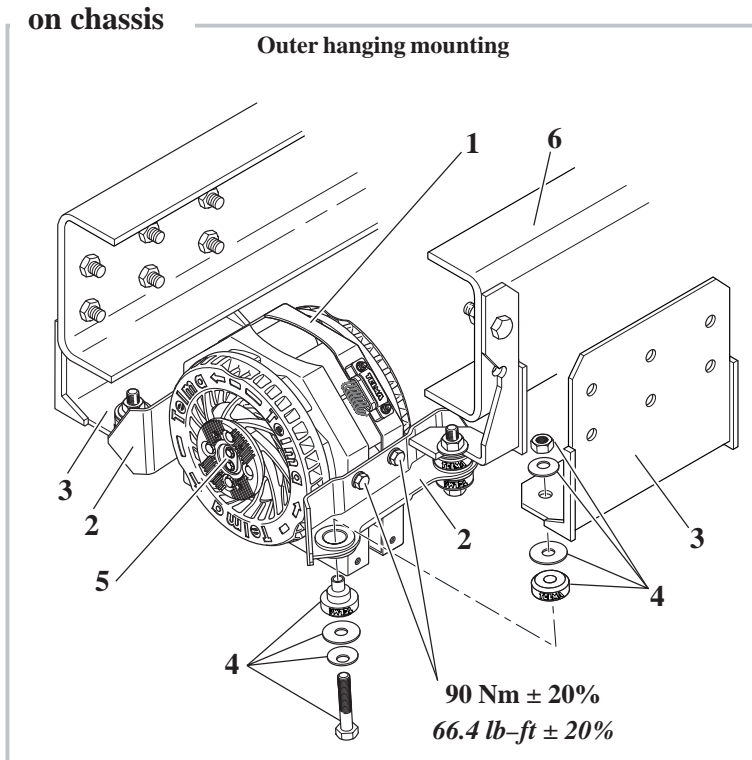


**REAR SIDE**





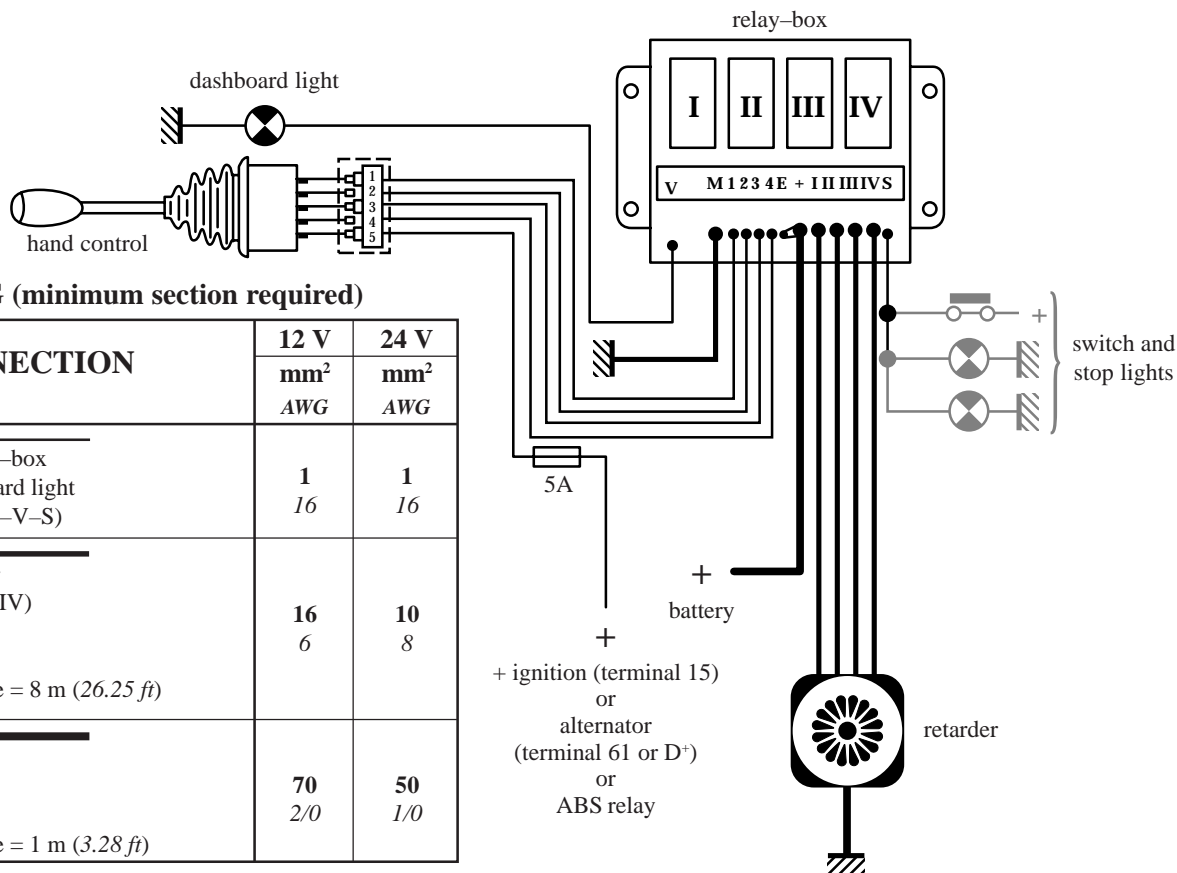
## Fitting example





## Wiring diagram (example with hand control)

Consult our Technical Department for automatic control and governing devices (ex. : ABS ...)



### WIRING (minimum section required)

CONNECTION	12 V	24 V
	mm <sup>2</sup> AWG	mm <sup>2</sup> AWG
hand control / relay-box relay-box / dashboard light (terminals 1-2-3-4-V-S)	1 16	1 16
relay-box / retarder (terminals I-II-III-IV) relay-box earth (terminal M) max length par wire = 8 m (26.25 ft)	16 6	10 8
retarder earth relay-box feeder (terminal +) max length par wire = 1 m (3.28 ft)	70 2/0	50 1/0

NOTE : for longer lengths, please consult our Technical Department.



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