



TECHNICAL DATA SHEET



ALTERNATOR E1S10M H

Three-Phase synchronous alternator with brushes and compound - 2 poles



E1S10M H

COMMON DATA

| | | | |
|----------------------|---------------------|--|-------------|
| Rated Power at 50Hz | kVA | 7,0 | |
| Rated Power at 60Hz | kVA | 8,5 | |
| Rated Power Factor | | 0,8 | |
| Nominal Temperature | °C | 40 | |
| Control System | | self-excited | |
| Execution | | with brushes | |
| Regulation Type | | compound | |
| Insulation Class | | H | |
| Protection | | IP21 | |
| Maximum Over speed | rpm | 4500 | |
| Overload | | 110% of rated power for one hour in a cycle of 6 hours | |
| Air Flow Requirement | m ³ /min | 3,7 at 50Hz | 4,6 at 60Hz |
| R.F.I. Suppression | | Standard EN55011 | |

REGULATION DATA

| | | |
|-------------------------|--|-------------------------|
| Compound | | compound |
| Voltage Regulation | | ±4% |
| Sustained Short Circuit | | > 300% of rated current |

WINDING DATA

| | | |
|---------------------------|-----------------|-------------------------------------|
| Stator Winding | | Single layer with auxiliary winding |
| Rotor Winding | | with damping cage |
| Number of Leads of Stator | | 6 |
| Stator Winding Resistance | Ω | 1,24 at 20°C |
| Rotor Winding Resistance | Ω | 21,0 at 20°C |
| THD at full load | | <4% (L-L) |
| THD at no load | | <3% (L-L) |
| Excitation at no Load | A _{dc} | 1,3 |
| Excitation at full Load | A _{dc} | 4,1 |

STANDARD

| | |
|------------|-----------------------------|
| References | EN60034-1 ISO8528-3 EN55011 |
|------------|-----------------------------|

ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I



E1S10M H

ELECTRICAL DATA

| Frequency | | 50Hz - 3000rpm | 60Hz - 3600rpm |
|--|-----|----------------|----------------|
| Voltage Series Star | V | 400/230 | 480/277 |
| Rated Power in Class H (125°C/40°C) | kVA | 7,0 | 8,5 |
| | kW | 5,6 | 6,8 |
| Rated Power in Class F (105°C/40°C) | kVA | 6,5 | 8,0 |
| | kW | 5,2 | 6,4 |

EFFICIENCY IN CL. H

| | | |
|-----|-------|-------|
| 4/4 | 80,5% | 81,0% |
| 3/4 | 81,0% | 82,0% |

REACTANCES AND TIME CONSTANTS

| | |
|--|-------|
| Pcc | 0,60 |
| X _d - dir. axis synchronous | 270% |
| X' _d - dir. axis transient | 20,0% |
| X'' _d - dir. axis subtransient | 6,5% |
| X _q - quad. axis reactance | 150% |
| T' _{do} - O.C. field time constant | 450ms |
| T' _d - Transient time constant | 33ms |
| T'' _d - Sub-transient time constant | 5,5ms |

MECHANICAL DATA

| | | |
|---------------------------------|--------------|------|
| Bearing non drive end | 6204-2Z-C3 | |
| Bearing drive end (B3/B14 form) | 6305-2Z-C3 | |
| Weight of generator | in B2 kg | \ |
| | in B3/B14 kg | 33,8 |
| | in B3/B9 kg | 33,1 |

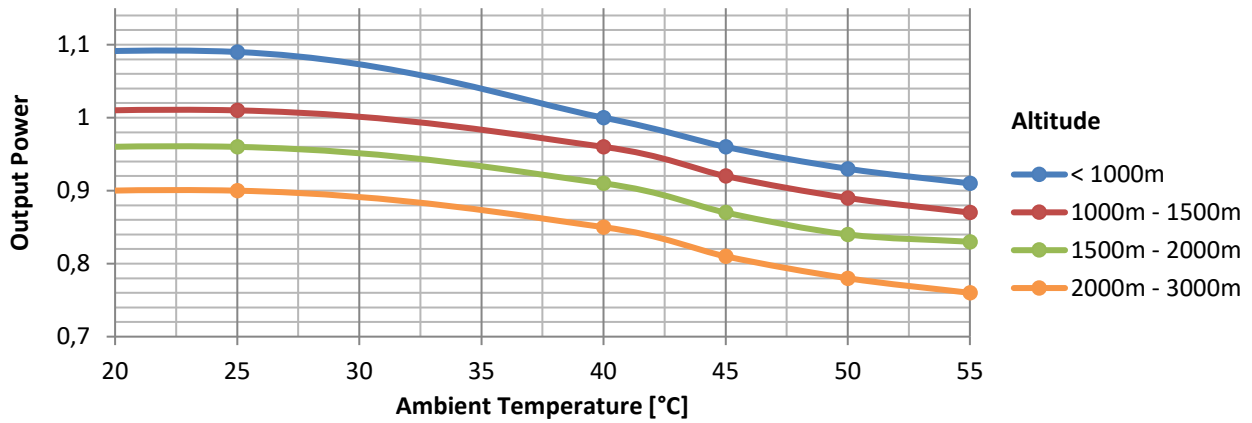


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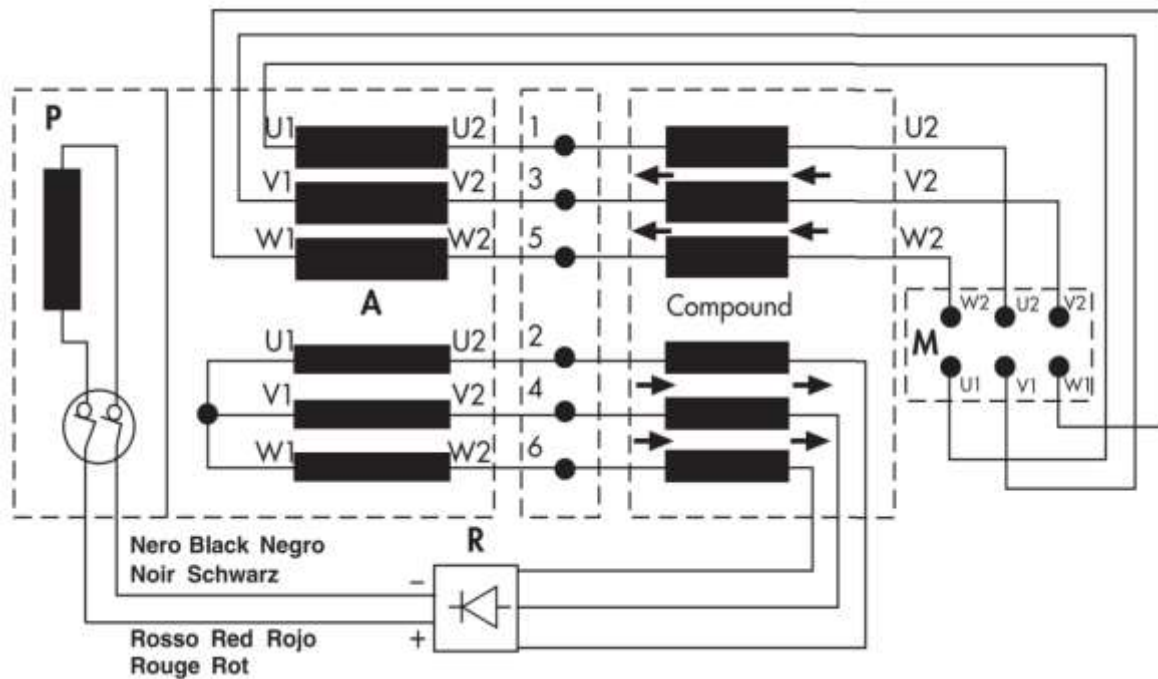
MOMENT OF INERZIA

| | | |
|--------|-------------------|-------|
| B3/B9 | kg·m ² | 0,016 |
| B3/B14 | kg·m ² | 0,016 |

DERATING CURVES



WIRING DIAGRAM

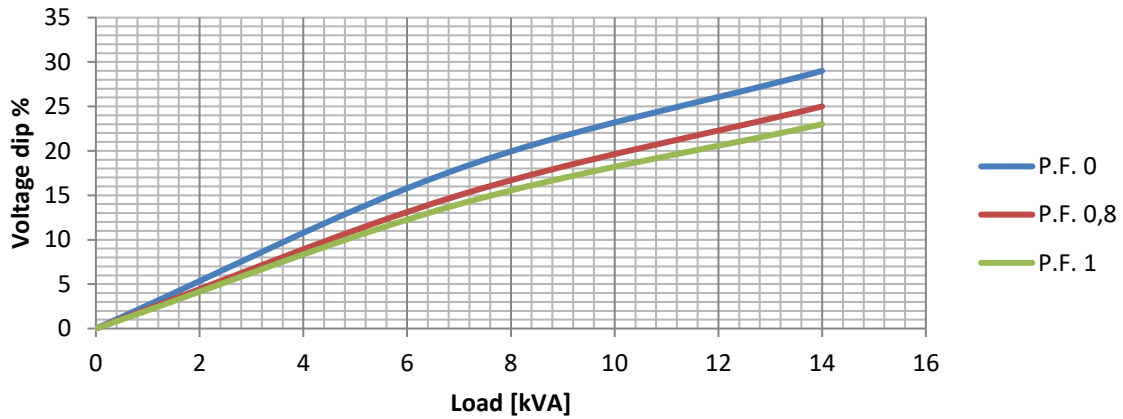




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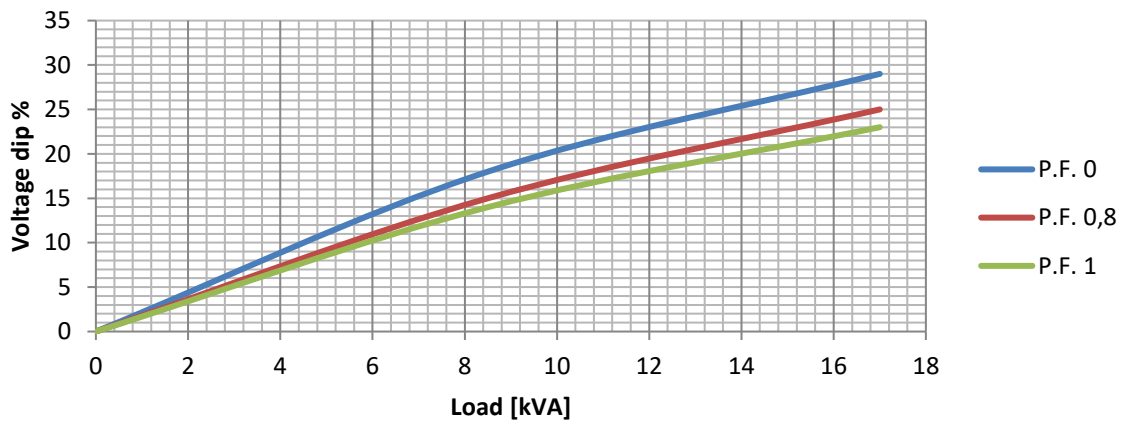
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



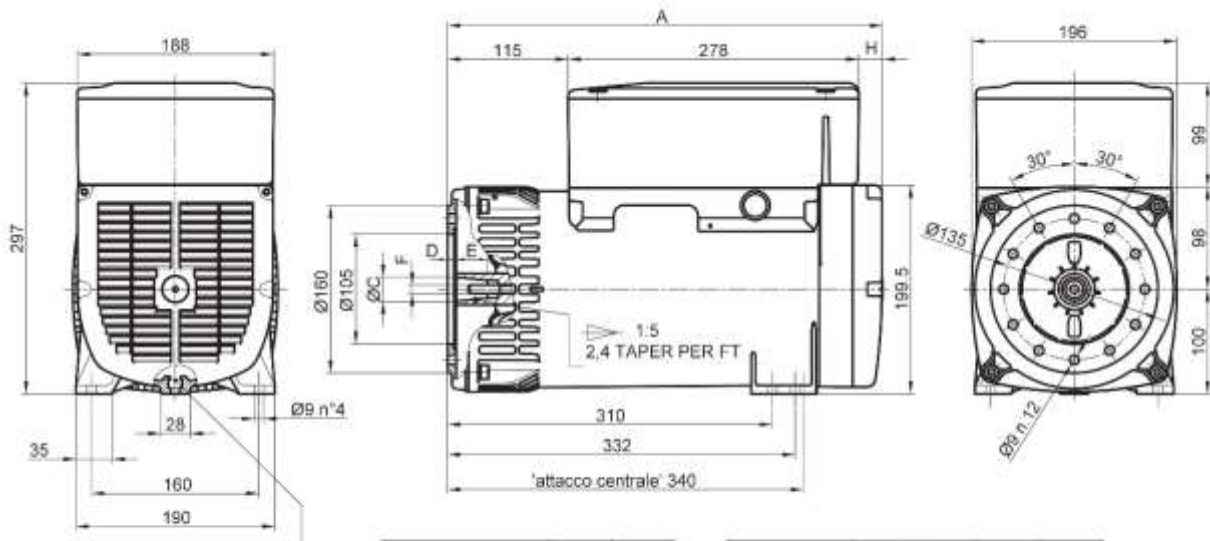
TRANSIENT VOLTAGE VARIATION 60Hz

Transient Voltage Variation @ 60Hz



E1S10M H

FORMA FORM FORME B3/B9



DADO-NUT-ECROU-MUTTER
TUERCA-M8 UNI 5687
5/16x24 ANSI B18.2.2

| TIPO TYPE TYP | A | H |
|---------------------|-----|----|
| E1S10M - E1E10M | 394 | 1 |
| E1S10L - E1E10L | 416 | 23 |

| FORMA FORM FORME FORME FORM FORM | ØC | D | E | F |
|--|-----|----|----|---------|
| cono Ø23 | Ø23 | 8 | 25 | M8 |
| cono Ø30 | Ø30 | 16 | 30 | M14x1.5 |

