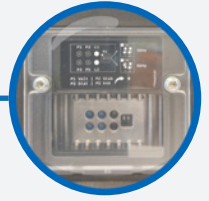


BRUSHLESS ALTERNATORS WITH AVR-d 4 Poles

ZB180



Patented Digital with 3 phase sensing



- Innovative compact design
- Sturdy and high-quality frame
- Possibility of adjusting the trimmers from outside in absolute safety when the machine is running
- External signaling of status/alarms by LEDs

| Technical characteristics | | ZB180 | ZB180 -1 | ZB180 | ZB180 -1 |
|---------------------------------|--|-------------|--------------------------------------|-------------|--------------|
| | | Three-phase | Single-phase | Three-phase | Single-phase |
| Number of poles | 4 | | | | |
| Rated power factor | 0,8 | | 1 | | |
| Voltage accuracy | ±0,5% | | | | |
| T.H.D. | < 3% phase to phase | | < 5% | | |
| Rated temperature | -15°C to +40°C (+60°C with derating) | | | | |
| Excitation system | Self-excitation | | | | |
| Execution | Brushless | | | | |
| AVR model | AVR 625D- Digital with 3ph sensing | | | | |
| | Right side as standard (left on request) | | | | |
| Overload | 110% of rated power for 1 hour in a 6 hour cycle | | | | |
| Short circuit current | > 300% I _n | | | | |
| Insulation class | H | | | | |
| Protection degree | IP21 (IP23 on request) | | | | |
| Rated speed | 1500rpm at 50Hz; 1800rpm at 60Hz | | | | |
| Overspeed | 2250rpm | | | | |
| Rotation direction | CW-CCW | | | | |
| Air flow requirement | 7,8 m ³ /min at 1500rpm; 9,4 m ³ /min at 1800rpm | | | | |
| NDE bearing type | 6208 2RSC3 | | | | |
| Stator windings | 2/3 pitch with auxiliary windings | | Single layer with auxiliary windings | | |
| Rotor | With damping cage | | | | |
| Number of leads | 12 | | | 4 | |
| Standards | EN IEC 60034-1; EN IEC 60034-22; ISO 8528-3 | | | | |
| Electromagnetic compatibility | EN IEC 61000-6-2; EN IEC 61000-6-4 | | | | |
| Union Harmonization Legislation | 2014/35/EU (Low Voltage) - 2014/30/EU (EMC) | | | | |

| 3ph | 50Hz -1500rpm | | | | | | | 60Hz -1800rpm | | | | | | | | | |
|---------|------------------------------|------|-------------|----------------------|-------------------------|------------------|----------------|------------------------------|-----|-----|----------------------|-------------------|------------------|---------|-------------|---------|------|
| | S1 continuous 40/125°C cl. H | | | | Stand-by 27/163°C | | | S1 continuous 40/125°C cl. H | | | | Stand-by 27/163°C | | | | | |
| | 3ph - 0,8 p.f. | | | 1ph - 1/0,8 p.f. (1) | 3ph - 0,8 p.f. | 1ph - 1 p.f. (1) | 3ph - 0,8 p.f. | | | | 1ph - 1/0,8 p.f. (1) | 3ph - 0,8 p.f. | 1ph - 1 p.f. (1) | | | | |
| Voltage | Series-Star Y | 380 | 400 | 415 | --- | 400 | --- | 380 | 416 | 440 | 460 | 480 | --- | --- | --- | | |
| | Parallel Star YY | 190 | 200 | 208 | --- | 200 | --- | 190 | 208 | 220 | 230 | 240 | 240 | 240 | 240 | | |
| | Series-Delta Δ | 220 | 230 | 240 | Eff. 4/4 load 400V 25°C | 230 | 230 | 230 | 220 | 240 | 254 | 266 | 277 | 277 | 277 | 277 | |
| | Parallel Delta ΔΔ | 110 | 115 | 120 | | 115 | 115 | 115 | 110 | 120 | 127 | 133 | 138 | 138 | 138 | 138 | |
| | Double Delta ΔΔ 1ph | --- | --- | --- | 230/115 | --- | 230/115 | --- | --- | --- | --- | --- | --- | 277/138 | --- | 277/138 | |
| Model | kVA | | | % | kVA | kVA | kVA | kVA | | | | % | kVA | kVA | kVA | | |
| Power | ZB180 SA | 20 | 20 | 20 | 82,1 | 12 | 22 | 13,2 | 22 | 24 | 25 | 26 | 27 | 82,6 | 15 | 29,7 | 16,5 |
| | ZB180 SB | 25 | 25 | 25 | 84,1 | 15 | 27,5 | 16,5 | 29 | 31 | 32 | 33 | 34 | 84,7 | 19 | 37,4 | 20,9 |
| | ZB180 SC | 30 | 30 | 30 | 86,2 | 18 | 33 | 19,8 | 35 | 38 | 40 | 40 | 41 | 86,5 | 22,5 | 45,1 | 24,8 |
| | ZB180 MA | 35 | 35 | 35 | 86,4 | 21 | 38,5 | 23,1 | 37 | 40 | 42 | 43 | 45 | 87,1 | 25 | 49,5 | 27,5 |
| | ZB180 MB | 40 | 40 | 40 | 87,1 | 23 | 44 | 25,3 | 44 | 47 | 49 | 50 | 52 | 87,9 | 27,5 | 57,2 | 30,3 |
| | ZB180 MC | 45 | 45 | 45 | 88,9 | 26 | 49,5 | 28,6 | 50 | 54 | 56 | 58 | 60 | 89,3 | 30 | 66 | 33 |
| | ZB180 LA | 50 | 50 | 50 | 89,1 | 28 | 55 | 30,8 | 57 | 62 | 64 | 65 | 66 | 89,8 | 33 | 72,6 | 36,3 |
| | ZB180 LC | 60 | 60 | 60 | 90,5 | 33 | 66 | 36,3 | 70 | 74 | 76 | 78 | 80 | 91,2 | 40 | 88 | 44 |
| | ZB180 XA | 72,5 | 72,5 | 72,5 | 91,3 | 37 | 79,8 | 40,7 | 80 | 84 | 86 | 88 | 90 | 92,2 | 44 | 99 | 48,4 |

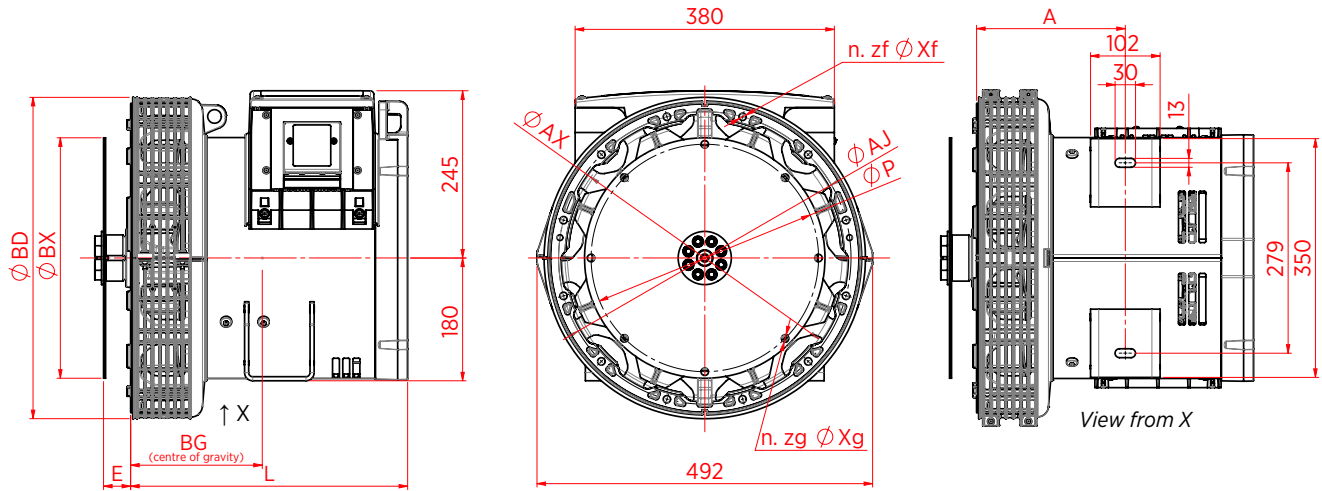
Power S1 cl.H (ΔT=125°C) - below 1000m AMSL - A.T. < 40°C
 (1) Single phase ratings line to neutral (y-yy connections - 1,0/0,8p.f): max 40% of 3ph output power.

| 1ph | 50Hz -1500rpm | | | | | | | | | | | 60Hz -1800rpm | | | | |
|------------|------------------------------|-----------|------------|----------|----------------------------------|-----|-------------------|----------|------------------------------|------|-----|-------------------|----------------------------------|------------|------|------|
| | S1 continuous 40/125°C cl. H | | | | | | Stand-by 27/163°C | | S1 continuous 40/125°C cl. H | | | Stand-by 27/163°C | | | | |
| | 1 p.f. | | | 0,8 p.f. | | | 1 p.f. | 0,8 p.f. | 1 - 0,8 p.f. | | | 1 p.f. | 0,8 p.f. | | | |
| Voltage | Series | 220 | 230 | 240 | Eff. 1,0 p.f. 4/4 load 230V 25°C | 220 | 230 | 240 | 230 | 220 | 230 | 240 | Eff. 1,0 p.f. 4/4 load 240V 25°C | 240 | | |
| | Parallel | 110 | 115 | 120 | | 110 | 115 | 120 | 115 | 110 | 115 | 120 | | 120 | | |
| Model | kVA | | | % | kVA | kVA | kVA | kVA | kVA | kVA | % | kVA | kVA | | | |
| Power | ZB180 SB-1 | 18 | 18 | 18 | 84,5 | 15 | 15 | 15 | 19,8 | 16,5 | 18 | 19 | 20 | 84,7 | 22 | 22 |
| | ZB180 SC-1 | 22 | 22 | 22 | 85,3 | 18 | 18 | 18 | 24,2 | 19,8 | 22 | 23 | 24 | 85,5 | 26,4 | 26,4 |
| | ZB180 MB-1 | 26 | 27 | 27 | 85,9 | 22 | 22 | 22 | 29,7 | 24,2 | 26 | 27 | 28 | 86,4 | 30,8 | 30,8 |
| | ZB180 MC-1 | 29 | 30 | 30 | 87,1 | 25 | 25 | 25 | 33 | 27,5 | 30 | 31 | 32 | 87,5 | 35,2 | 35,2 |
| | ZB180 LA-1 | 31 | 32 | 32 | 87,8 | 28 | 28 | 28 | 35,2 | 30,8 | 31 | 32 | 34 | 88,1 | 37,4 | 37,4 |
| | ZB180 LC-1 | 35 | 37 | 37 | 89,2 | 32 | 32 | 32 | 40,7 | 35,2 | 35 | 37 | 38 | 89,3 | 41,8 | 41,8 |
| ZB180 XA-1 | 41 | 44 | 44 | 90,6 | 38 | 38 | 38 | 48,4 | 41,8 | 41 | 43 | 44 | 90,8 | 48,4 | 48,4 | |

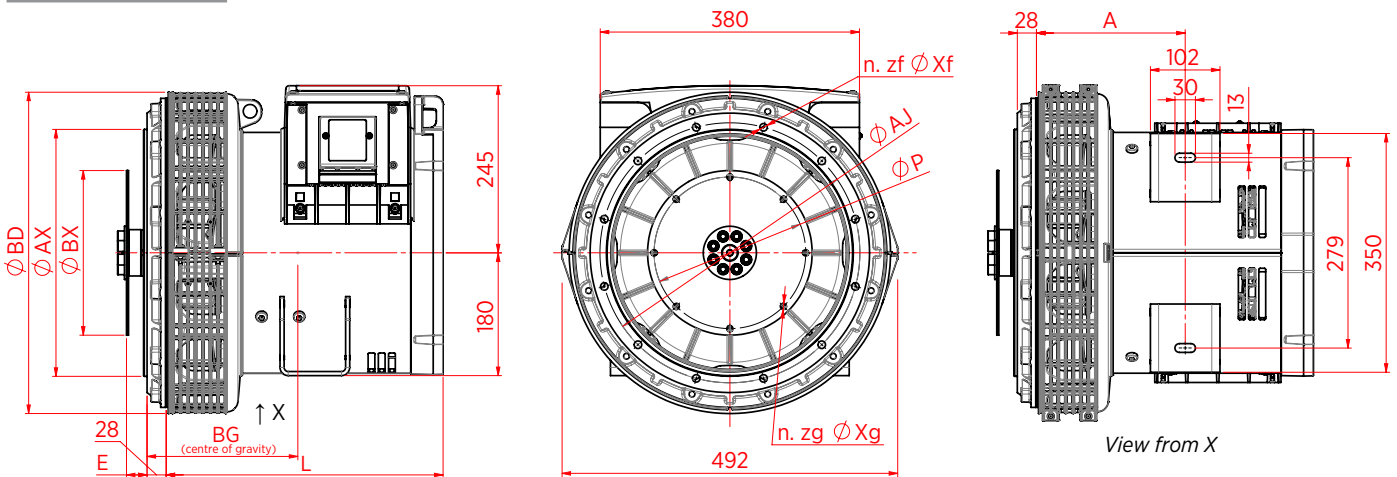
Power S1 cl.H (ΔT=125°C) - below 1000m AMSL - A.T. < 40°C

Overall Dimensions

SAE 3



SAE 4



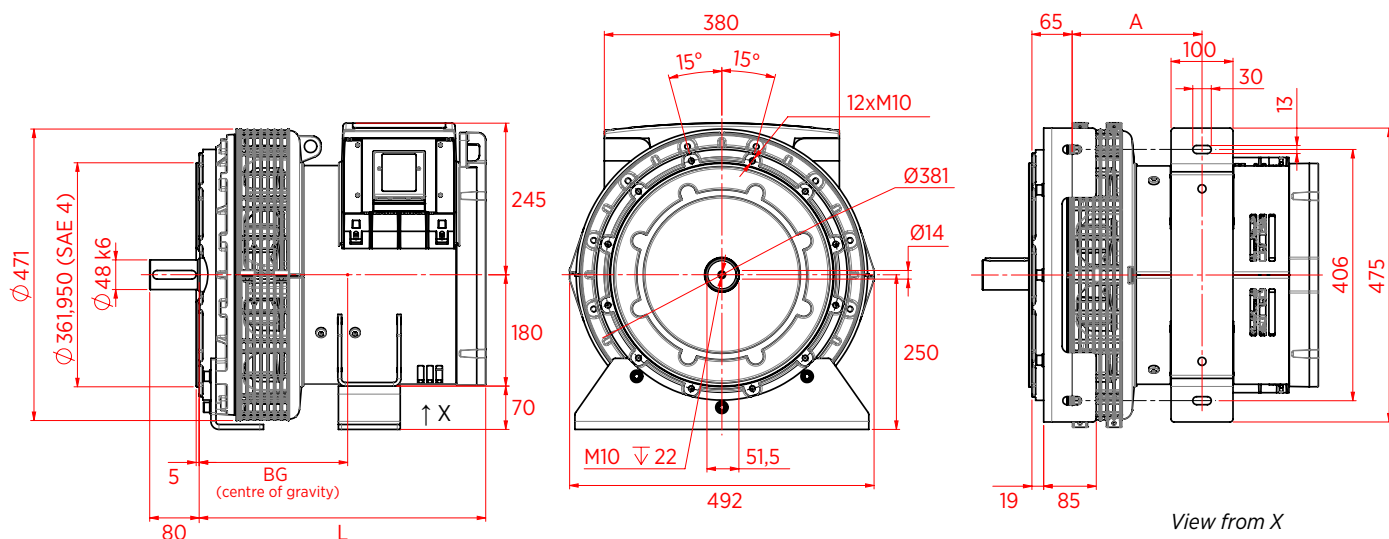
| Model | L [mm] | A [mm] | BG | | Weight | |
|------------|-----------|-----------|--------------------|-------------------|---------------|---------------|
| | | | SAE 3/11,5 [mm] | SAE 4/7,5 [mm] | SAE 3 [Kg] | SAE 4 [Kg] |
| ZB180 SA | 406 | 218 | 194 | 218 | 106 | 108 |
| ZB180 SB | 406 | 218 | 196 | 220 | 113 | 115 |
| ZB180 SC | 406 | 218 | 201 | 226 | 127 | 129 |
| ZB180 MA | 469 | 248 | 218 | 244 | 142 | 144 |
| ZB180 MB | 469 | 248 | 222 | 249 | 153 | 154 |
| ZB180 MC | 469 | 248 | 230 | 256 | 169 | 171 |
| ZB180 LA | 556 | 280,5 | 256 | 282 | 183 | 185 |
| ZB180 LC | 556 | 280,5 | 275 | 301 | 219 | 221 |
| ZB180 XA | 656 | 333 | 311 | - | 259 | - |
| ZB180 SB-1 | 406 | 218 | 196 | 220 | 111 | 113 |
| ZB180 SC-1 | 406 | 218 | 201 | 226 | 125 | 127 |
| ZB180 MB-1 | 469 | 248 | 222 | 249 | 151 | 152 |
| ZB180 MC-1 | 469 | 248 | 230 | 256 | 167 | 169 |
| ZB180 LA-1 | 556 | 280,5 | 256 | 282 | 181 | 183 |
| ZB180 LC-1 | 556 | 280,5 | 275 | 301 | 217 | 219 |
| ZB180 XA-1 | 656 | 333 | 311 | --- | 257 | --- |

| Flange | AX [mm] | BD [mm] | AJ [mm] | Xf [mm] | zf [nr] |
|--------|------------|------------|------------|------------|------------|
| SAE 3 | 409,575 | 471 | 428,625 | 11 | 12 |
| SAE 4 | 361,95 | 471 | 381 | 11 | 12 |

| Joint | E [mm] | BX [mm] | P [mm] | Xg [mm] | zg [nr] |
|-------|-----------|------------|-----------|------------|------------|
| 11,5 | 39,6 | 352,425 | 333,375 | 11 | 8 |
| 7,5 | 30,2 | 241,3 | 222,25 | 9 | 8 |

Overall Dimensions

B34



| Model | L | A | BG | Weight |
|------------|------|-------|------|--------|
| | [mm] | [mm] | [mm] | [Kg] |
| ZB180 SA | 463 | 210 | 228 | 121 |
| ZB180 SB | 463 | 210 | 231 | 128 |
| ZB180 SC | 463 | 210 | 240 | 142 |
| ZB180 MA | 526 | 240 | 259 | 156 |
| ZB180 MB | 526 | 240 | 265 | 166 |
| ZB180 MC | 526 | 240 | 272 | 183 |
| ZB180 LA | 613 | 272,5 | 298 | 198 |
| ZB180 LC | 613 | 272,5 | 317 | 233 |
| ZB180 XA | 713 | 325 | 355 | 273 |
| ZB180 SB-1 | 463 | 210 | 231 | 126 |
| ZB180 SC-1 | 463 | 210 | 240 | 140 |
| ZB180 MB-1 | 526 | 240 | 265 | 164 |
| ZB180 MC-1 | 526 | 240 | 272 | 181 |
| ZB180 LA-1 | 613 | 272,5 | 298 | 196 |
| ZB180 LC-1 | 613 | 272,5 | 317 | 231 |
| ZB180 XA-1 | 713 | 325 | 355 | 271 |