

INDUSTRIAL INVERTER TECHNICAL SPECIFICATION

GENERAL

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| Model | INV Series |
| Topology | Online DC/AC Inverter System with Output Isolation Transformer |
| Control | Microprocessor Controlled System |

INVERTER

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| Topology | Full Bridge High Frequency IGBT Inverter Modules (3 Phase / 1 Phase) |
| Isolation Transformer | Galvanically Isolated (standard) |
| Power Factor | 0.8 |
| Nominal Input Voltage | 110 VDC / 125 VDC / 144 VDC / 220 VDC / 264 VDC / 360 VDC +/-15% |
| Nominal Output Voltage | 110 VAC / 220 VAC / 230 VAC / 240 VAC / 380 VAC / 400 VAC / 415 VAC / 480 VAC |
| Voltage Tolerance | |
| Static | ± 1% |
| Dynamic with 100% load change | ± 10% in 50 msec. |
| Overload | |
| Between 100% – 125% | 10 min. |
| Between %125 – 150% | 1 min. |
| Between %150 – 300% | 1 sec. |
| Waveform | Pure Sinusoidal |
| Total Harmonic Distortion (THDv) | |
| at Linear Load | < 3% |
| at Non-Linear Load | < 7% |
| Crest Factor | 3 : 1 (1 second) |
| Nominal Output Frequency | |
| While synchronized with the line | 50Hz/ 60Hz ±2% |
| While not synchronized with the line | 50Hz/ 60Hz ± 0.1% |
| Switching Frequency | 16KHz |
| Short-circuit behaviour | 3 x Nominal Output Current |
| Protection | Short Circuit Protection, Over Voltage Protection, Under Voltage Protection, Over Current Protection and Over Temperature Protection |
| Front Panel Indicators | Inverter not Synchronized, Inverter DC Input High/Low, Bypass Out of Limit, Battery Fuse OFF, Bypass MCB OFF, DC Input MCB OFF, Inverter Overload, Internal Overtemperature, Inverter Failure, IGBT SCR Fuse Failure, Bypass Overtemperature Failure, Inverter Output High / Low, Inverter Overtemperature |
| Front Panel Set Menus | UPS Mode (UPS, ECO, Bypass Inhibit), DC Cut off, Low Battery Level, Output Voltage Adjustment, Set Output Frequency, Auto Start ON/OFF, Date, Alarm Sound ON/OFF, Password |
| Front Panel Monitoring Menus | Inverter Frequency, Inverter Output Voltage (per phase), Inverter/Bypass load percentage, Bypass Frequency, Bypass Voltage (per phase), Internal Temperature, DC Bus Voltage |
| Alarm Contacts (1 Open, 1 Closed) | Inverter Failure, Overtemperature, Load on Bypass / Inverter, Inverter not Synchronized, DC Input Low /High, Battery Fuse OFF, Bypass out of Limit, Inverter Overload |
| Overall Inverter Efficiency (at full load) | >85% / >90% depending on DC Bus Voltage |
| Communication (OPTIONAL) | RS 485 / RS 232 / Ethernet Ports, Remote PC Control, Modbus, Profibus, SNMP, DNP 3.0 Protocols and TCP/IP options |
| Paralleling (OPTIONAL) | Parallel Redundancy |

STATIC BY-PASS

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| Topology | Uninterruptible static switch with back-feed protection |
| By-Pass System | No break semiconductor thyristor – thyristor |
| Isolation Transformer (OPTIONAL) | Galvanically Isolated |
| Nominal Frequency | 50Hz / 60Hz ± 2% |
| Inverter/Bypass transfer time | |
| Inverter failure | Max. 5 msec. |
| Overload or manual transfer | 0 msec. |
| By-Pass/Inverter transfer time | 0 msec. |
| Efficiency | >99% |

MECHANICAL BY-PASS

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| Topology | Make before break mechanical switch with locking system (OPTIONAL:External By-Pass Switch) |
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SAFETY & ENVIRONMENT

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| Over Voltage Protection | IEEE 587 4500 A, 110 Joules (standard) / 40kA Surge Arrestor (OPTIONAL) |
| Electrical Interference Reduction | FCC Part 15 Class B |
| Electrical Standards | IEC 62040-3 (Performance), EN 50091-1 (Security) / EN 50091-2 (EMC) |
| Protection Level / Color | IP 20 / RAL 7035 (Standard), (Higher IP rating and different colors are available, please consult) |
| MTBF | 100,000 hrs. (w/out battery group) |
| Enclosure Material | Mild Steel, Zinc-phosphate coated; 100 µm electrostatic paint; 1.5 mm thickness |
| Cooling | Forced Fan (Standard) / Natural (OPTIONAL) |
| Cable Entry | Bottom (Standard) / Top (OPTIONAL) |
| Heater & Lightning | OPTIONAL |
| Distribution | OPTIONAL |
| Operating Temperature | -10 / +40 °C. (Higher operating temperatures are available, please consult) |
| Relative humidity | 5 – 90 % |
| Operating Altitude | Max. 1000 Mt. (Higher altitudes requires de-rating, please consult) |
| Noise Level | Max. 60 db |