

TECHNICAL SPECIFICATIONS
SPECTRODYNE MKIIR SERIES
INDUSTRIAL DC-DC CONVERTERS



STANDARD FEATURES

- High reliability, 20 Year life design.
- Designed to CSA, UL, CE (UL ANSA 1012 CE).
- Quality management per ISO9000.
- Complete galvanic isolation: input to output & ground.
- Fully regulated, filtered and protected: Overload, over-voltage, over-temperature, reverse polarity, line surge & transients. Low output ripple, excellent line/load regulation.
- Wide array of options and accessories.
- Designed for high-end, high-reliability industrial applications: Telecom, Industrial Processing, Power & Hydro Plants, Fuel Cells, ground isolation, polarity inversion.

STANDARD CONFIGURATIONS

MKIIR Converters are available in V1, V2 and V3 versions. Unless otherwise specified, all standard features are installed on all versions.

- **Versions V1:** Standard wall-mount unit with heavy duty input/output TBs and other essential features; no options and accessories. See version V2 or V3 for Converters equipped with additional features.
- **Version V2:** 19 inch rack mount enclosure, 2RU, 3.25"H. Input circuit breaker; output voltage adjustment control. Output digital voltmeter/ammeter; Form-C alarm output.
- **Version 3:** Same as Version V2 but with additional user-selected options.

TECHNICAL SPECIFICATIONS

DC Input	Standard input DC (nominal): 12V, 24V, 36V, 48V, 72V, 120V, 250V or 350V.
DC Output	Standard output DC (nominal): 12V, 24V, 36V, 48V, 72V, 120V or 250V.
Output Voltage Adj.	Output can be adjusted via front panel control (Version V2, V3). Typical adjustment range is +/- 10% for 12V and 24V output units, +/-5% for 48V, 120V and 250V output units.
Output Current	From 0.05 to 100 Amps (user specified), model dependant.
Regulation	Line: 0.5% typical. Load: better than +/-1%.
Ripple & Noise	Less than 50mV (32 dBrc) for 12V and 24V output units; less than 75mV (32 dBrc) for 48V output units; less than 100mV for 120V and 250V output units.

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Protection	Brownout, surge, transients, and indirect lightning protection. Overload and short circuit protection. Current walk-in (soft start).
Isolation (Dielectric)	CSA C22.2 # 107.2.01. EMI: EN55022 class A, FCC 20780 class A. Surge withstanding: ANSA C37.90.1.
Polarity Protection	Reverse battery DC input protection is provided.
Parallel Operation	Via built-in isolation diode for N+1 or parallel operation of two or more Converters.
Output Metering	Digital meter for monitoring output voltage or current (Analog meters: option A2).
Circuit Breakers	Input DC circuit breaker is standard on Versions V2 and V3. Two-pole breakers are supplied 120V input or output units. Option A6: Output DC circuit breaker
Alarm	Form-C alarm contacts (V2 and V3); activated if input or output failure, or an overload condition occurs. Option A7: Full alarm package.
Efficiency	Greater than 90% typical, model dependant.
Cooling	Convection or forced air cooling, model dependant. Fan is thermostatically controlled and operates only if heat sink temperature exceeds a preset limit.
Temperature Range	Standard: -10°C to +40°C. Option A1: -30°C to +60°C
Storage Temperature	-40°C to +75°C
Humidity	0 to 95%, non-condensing.
Enclosures	Wall mount or rack mount (2RU or 3RU).

OPTIONS AND ACCESSORIES

Option A1	Extended temperature range (-30°C to +60°C).
Option A2	Analog output voltmeter and ammeter in lieu of standard digital metering
Option A3	Ruggedized units for harsh environment; conformal spray and fungus proofing.
Option A4	DC-DC battery charging (constant potential/constant current), with and output reverse polarity protection and battery isolation diode. User-adjustable float/equalize control.
Option A5	Special input/output and control configuration for Fuel Cell applications. Remote voltage adjustment and current limit functions are available.
Option A6	Output circuit breaker, 1 or 2 poles (Ext. CBs on 120V or higher input/output models).
Option A7	Full alarms package: Input DC fail alarm, Low output dc alarm, High output dc alarm, Ground fault alarm and Converter fail alarm. Separate Form-C contact for each alarm.
Option A8	Extension brackets for 23-inch rack.
Option A9	Non-standard DC input or output.
Option A10	Customer-specified customization including Open frame OEM packaging, DC distribution panels (circuit breakers or fuses). Contact factory for availability and details.

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