

# iBOX™ SERIAL SUBSTATION CONTROLLER

Substation Automation Solutions

## TECHNICAL SPECIFICATIONS



### Digital Inputs

- 8 optically isolated status inputs: 24 VDC, 48 VDC, or 125 VDC with 10% overload wetting options available
- LED indications
- 4-5 mA typical current burden per input (up to 48 VDC)
- Maximum 0.5 W heat dissipation per input from current burden of inputs at 125 VDC

### Control Outputs

- 4 Trip/Close pairs or 2 Trip/Close pairs and 2 Form A contacts
- Separate Master Trip and Master Close relays
- Security features: single point of failure integrity, select-before operate (SBO) functionality

### Standards and Protection

Standard	Description	Standard	Description
CISPR11	Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment	EN61000-4-12	Ring wave immunity test (100 kHz), Damped oscillatory wave immunity test (100 kHz/1 MHz)
EN60255-5	Dielectric test Impulse voltage test Insulation resistance	EN61000-4-16	Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz (steady-state)
EN61000-4-2	ESD Immunity test	EN61010-1	Safety requirements for electrical equipment for measurement, control and laboratory use - general requirements
EN61000-4-3	Radiated, radio-frequency, electromagnetic field immunity test	IEC® 68-2-1	Cold
EN61000-4-4	Electrical fast transient/burst immunity test	IEC 68-2-2	Dry heat
EN61000-4-5	Surge immunity test	IEC 68-2-6	Vibration
EN61000-4-6	Immunity to conducted disturbances induced by radio-frequency fields	IEC 68-2-30	Damp heat, cyclic (12+12- hour cycle)
EN61000-4-8	Power frequency magnetic field immunity test	IEC 68-2-31	Drop and topple
EN61000-4-10	Damped Oscillatory Magnetic Field Immunity	IEEE® C37.90.1-1989	SWC capability
		IP20 Rating	Protected against solid objects up to 12mm (including fingers) No protection against liquids

- 35 W breaking @ 150 VDC
- 180 W breaking @ 30 VDC
- 6 Amp current carrying capability

### Communications

- Protocols: Modbus®, DNP3.0 and IEC®-870-101 included (Many others available as options)
- 3 serial ports plus WESMAINT configuration/maintenance port
- Speed: 300 bps to 38.4 kbps
- Handshaking: TX, RX, RTS, CTS, DCD; optically isolated
- LED indicators: TX, RX, RTS, CTS, DCD
- Connection: DB-9F, RS-232/RS-485 signals
- Solid-state, radio-keying relay driven by COM1 RTS signal; output capable of sinking 3A@ 36 VDC

### Power Supply

- Input options: 20-60 VDC, 7W max input supply draw

### Physical

- Dimensions: 7.5" x 11" footprint by 1.75" high
- Metal electronic enclosure
- Mounting: 4 mounting holes, 2 slotted for easy installation
- Terminations (status, control and input power): #14 Compression
- Terminal Blocks

### Environmental

- Temperature: -40° to +80°C operating range
- Humidity: 93% non-condensing at 55°C

### Firmware

- Flexible, application dependent

### Maintenance Software

- WESMAINT
- System requirements: IBM® PC or compatible, VT 100 emulator

### Configuration Software

- ConfigPro
- LogicLinx® Editor (if using LogicLinx)



GE Energy Services

gepower.com

GE Energy Services, General Electric Canada Inc.,  
2728 Hopewell Place N.E., Calgary, Alberta T1Y 7J7, Canada  
Tel: 403.214.4400 Fax: 403.243.1815

GEA-13488

© 2002, General Electric Canada Inc. All rights reserved. The contents of this document are the property of General Electric Canada Inc. No part of this work may be reproduced or transmitted in any form or by any means, except as permitted in written license agreement with General Electric Canada Inc. General Electric Canada Inc. has made every reasonable attempt to ensure the completeness and accuracy of this document. However, the information contained in this document is subject to change without notice, and does not represent a commitment on the part of General Electric Canada Inc. Windows® is a registered trademark of Microsoft Corporation. IEEE® is a registered trademark of the Institute of Electrical and Electronics Engineers, Inc. ISO® is a registered trademark of the International Organization for Standardization. IEC® is a registered trademark of the Commission Electrotechnique Internationale. Modbus® is a registered trademark of Gould Inc. IBM® is a registered trademark of International Business Machines Corporation. All other brand and product names mentioned in this document are trademarks of their respective companies.