

351J RECLOSER CONTROL

Advanced Control for a
Complete Recloser Solution!



351J RECLOSER CONTROL

The 351J three phase recloser control was designed specifically to work with the Joslyn TriMod 300 series vacuum recloser to provide a complete recloser solution. In addition to standard recloser functions, the 351J includes underfrequency load shedding, event reports with waveform data, fault locating capability, and power and energy metering.

FEATURES/BENEFITS

- Large Operator Controls for Ease of Operation while Wearing Gloves
- Easy Settings - Logic Already Done
- Up to Four Reclosures and Sequence Coordination
- Fast and Delay Curves for Phase and Ground Overcurrent Protection
- Traditional Recloser, US, IEC, and Programmable Curves
- Underfrequency Load Shedding
- Recloser Wear Monitor, Load Profiling, Sequential Events Recorder (SER), and Event Reports
- Enhanced SELogic® Control Equations and Six Setting Groups for Designing Custom Schemes
- Mirrored Bits Technology for Relay-to-relay Digital Logic Communications
- DNP Version 3.00 Level 2 Protocol with Point Mapping
- Connect True Three Phase Voltage for:
 - complete metering, including MWh and MVARh
 - load encroachment logic to prevent tripping on load
 - fault location and directional overcurrent elements
- Connect Extra Voltage Channel for Synchronism-Check and Line Voltage Check

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to find your local sales representative!*

351J RECLOSER CONTROL

EASY TO USE

Large operator controls make personnel training fast and efficient

COMMUNICATIONS

Connect the serial port to a computer serial port for local communications or to a modem for remote communications.

SEQUENTIAL EVENT RECORDER

Stores and time tags every operator control action, each manual open, each setting change or loss of power, and all externally initiated operations.

FAULT LOCATING CAPABILITY

TRIPPING TARGETS

Targets show fault type and severity and reset automatically at next fault or when recloser closes.

TRIP TEST BUTTON (OPTIONAL)

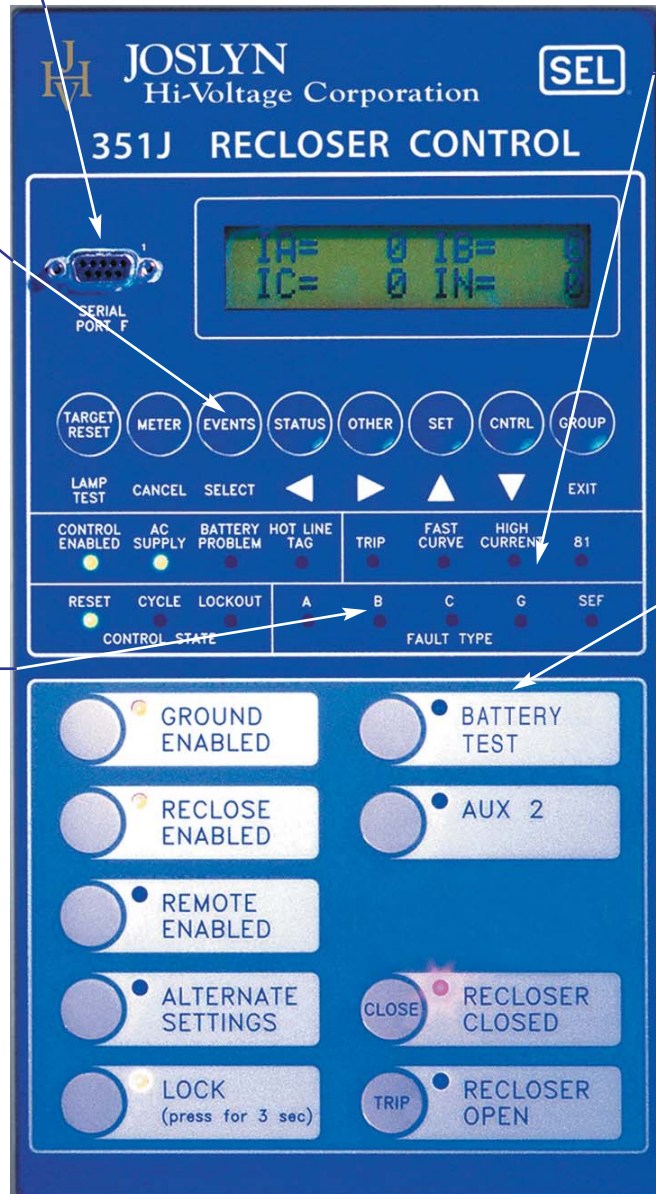
Initiates a simulated fault to verify trip and recloser functionality. Recloser must be properly bypassed to operate.

CURVES

All 38 traditional recloser curves with curve modifiers are available. User-designed curves can be downloaded.

METER VALUES DISPLAY

Large display shows metered currents until user presses menu buttons which guides the operator through more advanced meter displays, self-test status report, recloser monitor report, settings display or modification, extra operator controls, and setting group switching.



INDICATORS

Visible in direct sunlight and are retained indefinitely through power interruptions.

UNDERFREQUENCY LOAD SHEDDING

Provides fault location using oscillographic event reports with waveform data.

BATTERY TEST

Allows manual testing of battery during inspections.

DIRECTIONAL OVERCURRENT PROTECTION

EZ SETTINGS

Main (Group 1) and Alternate (Group 2) settings are factory set and will remain until new settings are changed and enabled.

POWER & ENERGY METERING

AUXILIARY POWER

12Vdc auxiliary power available for modem or radio.

Specifications

AC Voltage Input Input Power: 106-140 Vac, 120 Vac Nominal

12 Vdc Output 11-14 Vdc, 6 w continuous, 13 W for 1 second

AC Voltage Inputs Voltage Inputs V_A , V_B , V_C , and V_S .

300 V_{L-N} continuous (connect any voltage up to 300 Vac).

600 V_{L-N} for 10 seconds.

Burden: 0.03 VA @ 67V; 0.06 VA @ 120V; 0.8 VA @ 300V.

AC Current Inputs 1A nominal; 3A continuous, 100A for

1 second, linear to 20 A symmetrical. 250 A for 1 cycle.

Burden: 0.13 VA @ 1 A, 1.31 VA @ 3 A.

Sensitive Earth Fault 0.05 A nominal channel IN current input:

1.5 A continuous, 20 A for 1 second, linear to 1.5 A

symmetrical. 100 A for 1 cycle.

Burden: 0.0004 VA @ 0.05A, 0.36 VA @ 1.5 A.

Frequency and Rotation 60/50 Hz system frequency and

ABC/ACB phase rotation are user-settable.

Frequency tracking range: 40.1 - 65 Hz (VA required for

frequency tracking; factory jumpers installed to VA from

control AC power source).

Serial Communications Two side-panel and one front-panel

EIA-232 serial communications port.

One side panel EIA - 485 serial port with

2100 Vdc of isolation.

Per-port baud rate selections: 300, 1200, 2400, 4800,

9600, 19200, 38400.

Instantaneous/Definite-Time Overcurrent Elements

Pickup Range: 0.05 - 20.00 A, 0.01 A Steps (1 A nominal)

0.20 - 34.00 A, 0.01 A Steps (1 A nominal - for phase-to-phase elements)

0.005 - 1.500 A, 0.001 A Steps

(0.05 A nominal channel IN current input A)

Steady-State Pickup Accuracy:

± 0.01 A and $\pm 3\%$ of setting (1 A nominal)

± 1 mA and $\pm 5\%$ of setting (0.05 nominal channel IN current input)

Transient Overreach: $\pm 5\%$ of pickup

Time Delay: 0.00 - 16,000.00 cycles, 0.25-cycle steps

Timer Accuracy: ± 0.25 cycle and $\pm 0.1\%$ of setting

Synchronism-Check Elements

Slip Frequency Pickup Range: 0.005 - 0.500 Hz, 0.001 Hz steps

Slip Frequency Pickup Accuracy: ± 0.003 Hz

Phase Angle Range: 0 - 80°, 1° steps

Phase Angle Accuracy: $\pm 2^\circ$

Time-Overcurrent Elements

Pickup Range: 0.10 - 3.20 A, 0.01 A steps (1 A nominal)

0.005 - 0.160 A, 0.001 A steps (0.05 A nominal channel IN input)

Steady-State Pickup Accuracy:

± 0.01 A and $\pm 3\%$ of setting (1 A nominal)

± 1 mA and $\pm 5\%$ of setting (0.05 A nominal channel IN current input)

Time Dial Range: 0.50 - 15.00, 0.01 steps (US)

0.05 - 1.00, 0.01 steps (IEC)

0.10 - 2.00, 0.01 steps (recloser curves)

Curving Timing Accuracy: ± 1.50 cycles and $\pm 4\%$ of curve time for current between 2 and 30 multiples of pickup

Under- and Overvoltage Elements

Pickup Ranges: 0.0 - 150.0 V, 0.1 V steps (various elements)

0.0 - 260.0 V, 0.1 V steps (phase-to-phase elements)

Steady-State Pickup Accuracy: ± 1 V and 5% of setting

Transient Overreach: $\pm 5\%$ of pickup

Under/Overfrequency Elements

Pickup Range: 40.10 - 65.00 Hz, 0.01 Hz steps

Steady-State plus Transient Overshoot: ± 0.01 Hz

Time Delay: 2.00 - 16,000.00 cycles, 0.25 cycle steps

Timer Accuracy: ± 0.25 cycle and $\pm 0.1\%$ of setting

Timers

Pickup Ranges: 0.00 - 999,999.00 cycles, 0.25-cycle steps

(reclosing relay and some programmable timers)

0.00 - 16,000.00 cycles, 0.25-cycles steps

(some programmable timers and other various timers)

Pickup and dropout accuracy for all timers:

± 0.25 cycle and $\pm 0.1\%$ of setting

Metering Accuracy

Accuracies are specified at 20°C and at nominal system frequency unless noted otherwise.

Voltages V_A , V_B , V_C , V_S $3 * V_O$, V_1 , V_2 - $\pm 0.2\%$ (33.5 - 150V)

Currents I_A , I_B , I_C - ± 3.0 mA and $\pm 0.1\%$ (0.1 - 2A) (1 A Nominal)

Temperature Coefficient: $[(0.0002\%)/(^{\circ}C)^2] * ({}^{\circ}C - 20^{\circ}C)^2$

Currents I_N , I_1 , $3 * I_O$, $3 * I_2$ - ± 0.01 A and $\pm 3\%$ (0.1 - 20 A)

(1 A Nominal)

± 1 mA and $\pm 5\%$ (0.1 - 1.5 A) (0.05 A nominal channel

IN current input)

Phase Angle Accuracy $\pm 1.0^\circ$



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