WIND FARM FAULT INDICATORS

QUICKLY DETERMINE FAULT LOCATION AND RESTORE OPERATIONS IN WIND FARM COLLECTOR SYSTEMS

FEATURES AND BENEFITS

- Line-powered operation for longer life and limited maintenance (no batteries required)
- Current trip value up to 1500 A with delayed trip response time
- Remote display options that allow quick determination of indicator status without the need to open medium-voltage compartments
- Easy installation on separable connector components with capacitive test points
- For installation in transformers, switches, and junction boxes
- Units available that work with cold-shrink silicone medium-voltage terminations
- Auxiliary contact output option for connection to SCADA for remote monitoring

APPLICATIONS

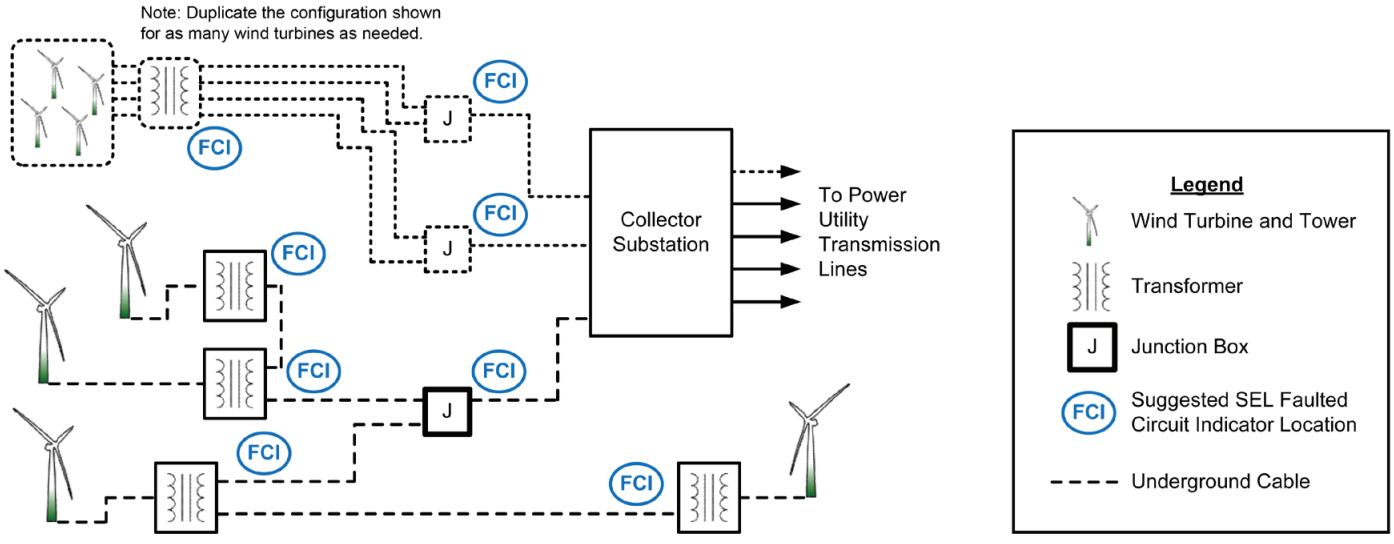
Wind turbine outputs are fed through a transformer and distributed overhead or underground to a collector substation. The voltage will then be stepped up by the collector substation transformer to the utility transmission voltage. A single fault can disable from one to an entire line of turbines.

SEL fault indicators help operations personnel quickly determine the location of the fault, isolate the faulted section, and restore the balance of the wind farm.

Capacitive Test Points—Install the TPR—Test Point Reset in wind farm applications that use terminations equipped with capacitive test points located on the T-body of 600 A terminations. By selecting a high nominal trip rating and a longer trip response time, you can apply this cost-effective, nondirectional fault indicator to find faults on circuits with distributed generation.

Collector Systems—Determine fault location and restore operations in wind farm collector systems. Wind turbine outputs are fed through a transformer and distributed overhead or underground to a collector substation. The voltage will then be stepped up by the collector substation transformer to the utility transmission voltage. A single fault can disable from one to an entire line of turbines. SEL fault indicators help operations personnel quickly determine the location of the fault, isolate the faulted section, and restore the balance of the wind farm. Apply the 3VR—Three-Phase Voltage Reset to a 600 A class basic insulating plug (BIP) that has capacitive test points.

Energy-Harvesting, Battery-Free Restoration Reset—Apply the ERL—Electrostatic Reset at strategic intervals along overhead conductors and at midfeeder disconnects to minimize fault-finding times and optimize reliability statistics. The inrush restraint feature prevents false tripping during recloser operations, and the unit automatically resets upon restoration of system voltage. No battery is required. Use for maintenance-free fault indication.



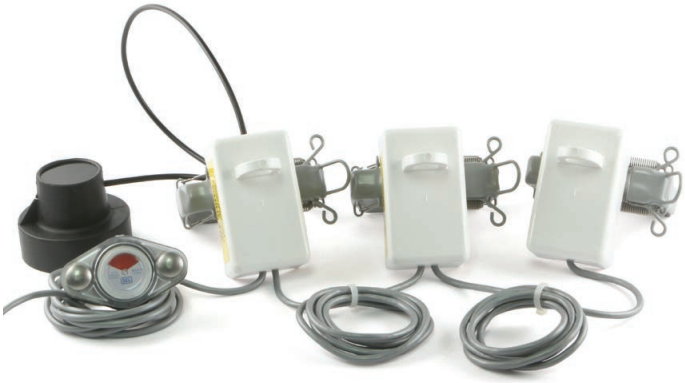
SELECT FROM THREE DIFFERENT TYPES OF FAULT INDICATORS

ELECTROSTATIC RESET

- Electric field potential gradient powers the ERL.
- ERL automatically resets after restoration of system voltage.
- Inrush restraint feature prevents false tripping during recloser operations.
- Reflective red target (the largest display in the industry) is easy to spot, both at night and during the day.
- Zero maintenance: there is no battery to replace or monitor.

TEST POINT RESET (SHOWN WITH REMOTE DISPLAY)

- Most economical solution for underground applications.
- Powered from voltage present at T-body test point.
- Easy to install on most brands of 600 A class elbows with capacitive test points.
- Automatically resets upon restoration of system voltage.
- Works independently of load current.
- Ideal for pad-mounted transformer and switchgear applications.
- Features remote display versions that eliminate the need to open an enclosure cabinet to determine indicator's status.
- Allows access to the test point with simple removal of the fault indicator.
- Compatible with SCADA through the auxiliary contact option.
- Prevents false tripping due to adjacent phase effects with junction shield option.



THREE-PHASE VOLTAGE RESET DEVICE

- No batteries required.
- Voltage powered from BIP.
- No T-body capacitive test point required.
- Automatic reset after BIP voltage restoration.
- Operation is independent of load current.
- Up to 1500 A trip value (higher on request).
- Several remote display options available.
- Auxiliary contact option for SCADA compatibility.

A Test Point Reset Fault Indicator with junction shield provides indication in a switchgear cabinet.

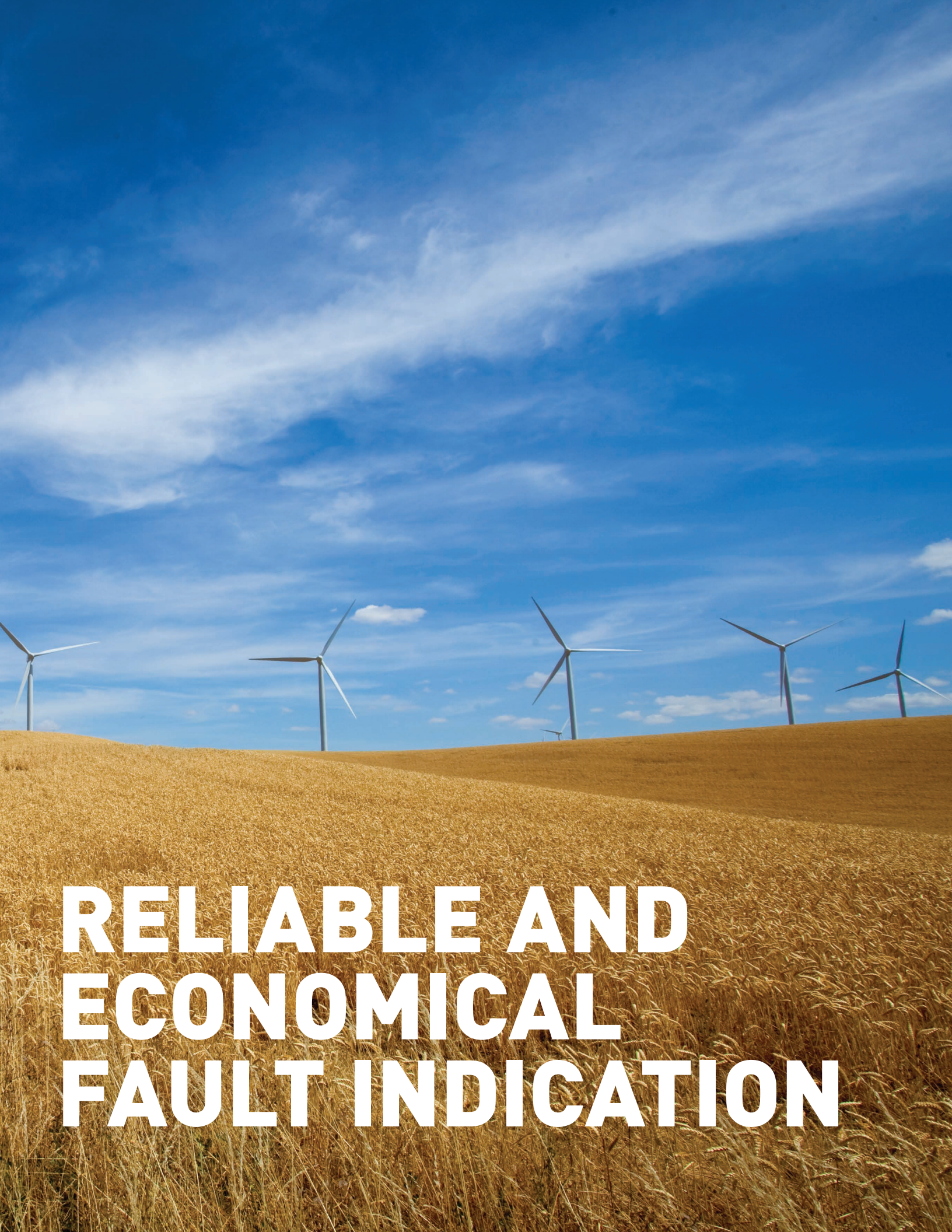
Three-Phase Voltage Reset Device as applied.

GENERAL SPECIFICATIONS

ELECTROSTATIC RESET ERL1200IRDT	
Power Source	Electric field potential gradient
Nominal Trip Rating	1200 A
Trip Tolerance	±10%
System Voltage Range (L-L)	10.35 to 69 kV
Reset Time	Approximately 20 minutes at 6 kV (L-N) (Higher voltages result in quicker reset.)
Display	Reflective red target
Maximum Fault Current	25 kA
Trip Response Time	24 ms
Inrush Restraint Response Time	300 ms
Outer Diameter Clamping Range	0.162" to 1.54" (Please specify clamping diameter or range when ordering.)
Housing Material	UV-stabilized polycarbonate resin
Clamp Material	Stainless-steel clamp with a semiconductive rubber sleeve
Temperature Range	–40° to +85°C (–40° to +185°F)

THREE-PHASE VOLTAGE RESET 3VRPV1500IRDTL9	
Power Source	Capacitive test point of basic insulating plug (BIP)
Nominal Trip Rating	1500 A
Trip Tolerance	±10%
Reset Voltage (L-N)	≥16 kV
Reset	Automatic on restoration of voltage
Reset Time	3 minutes typical
Maximum Fault Current	25 kA
Trip Response Time	24 ms
Inrush Restraint Response Time	300 ms
Elbow Style	600 A class with BIP capacitive test point
Housing Material (voltage pickup interface)	Conductive EPDM rubber
Temperature Range	–40° to +85°C (–40° to +185°F)

TEST POINT RESET 3TPRV1200IRDTJ6	
Power Source	Capacitive test point voltage on T-body termination
Nominal Trip Rating	1200 A
Trip Tolerance	±10%
Reset Voltage (L-N)	≥5 kV
Reset	Automatic on restoration of voltage
Reset Time	3 minutes typical, dependent on system voltage
Maximum Fault Current	25 kA
Trip Response Time	24 ms
Inrush Restraint Response Time	300 ms
Elbow Style	600 A class with capacitive test point
Housing Material	Conductive EPDM rubber
Temperature Range	–40° to +85°C (–40° to +185°F)



RELIABLE AND ECONOMICAL FAULT INDICATION

**MAKING ELECTRIC POWER SAFER,
MORE RELIABLE, AND MORE ECONOMICAL**

FAULT INDICATOR AND SENSOR DIVISION

Tel: +1.847.362.8304
Email: infolz@selinc.com
Web: www.selinc.com

PF00264 · 20140108