





Fluke. Keeping your world up and running.

Fluke Corporation

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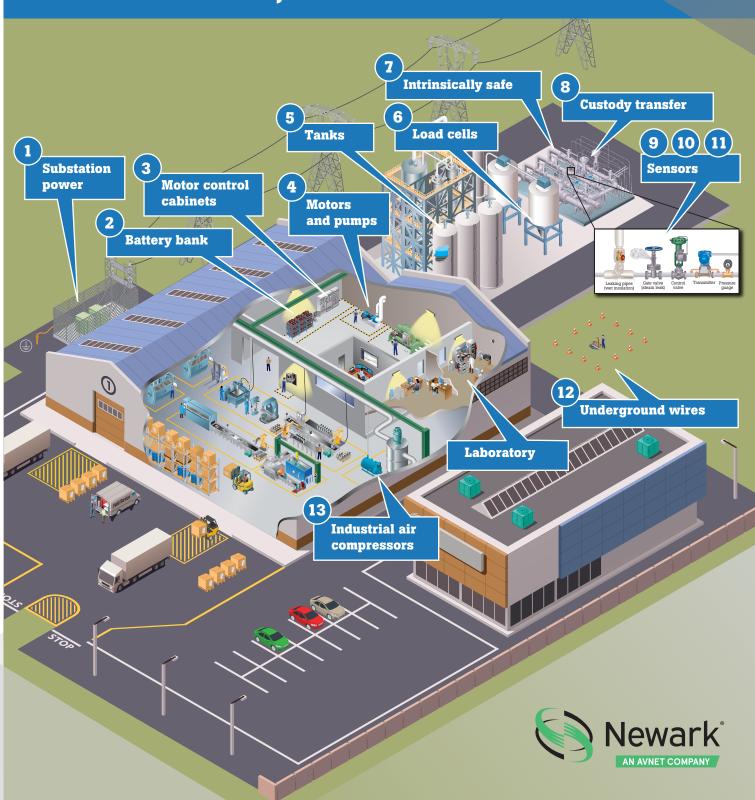
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Industrial automation maintenance, inside and out





1. Substation Power

(Ti450 SF6, Amprobe TIC300PR0, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Compliance fines for excess SF6 gas discharge and costs (state and local).

1000 volts and safety

Solution: Safely view gas discharge from bushings and piping using a special

purpose IR camera without equipment shutdown; detect and identify

presence of 1kv to122kv from a distance



2. Battery Bank

(BT521, BT520, BT510, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Backup power unavailable for mission critical facilities, emergency lighting

and ventilation, over/under-charging, loose terminal, an entire string of

batteries may fail due to one bad battery, explosion

Solution: Safely measure, record battery performance and determine health

of battery string; compliance with NFPA 70e



3. Motor Control Cabinets - Inspection and Root Cause

(IR camera/IR windows and PQ window/power quality, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Intermittent outages caused by hot spots, transients, or unbalanced loads

Solution: Safely view using Fluke IR Cameras through an IR Window and

PQ Analyzers with PQ Windows to measure and log all 3 phases

simultaneously and to inspect waveforms



4. Industrial Motors and Pumps

(Power quality, mobile and semi-permanent vibration and alignment tool, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Unexpected bearing wear and motor failure, increased power consumption

and maintenance, and the cost of 3rd party experts

Solution: Mobile and semi-permanent vibration measurement to monitor, record,

and see trends in performance and align motors and pumps



5. Tanks

(IR camera and 75x/77x series, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Resource allocation – too much or too little product for the process; EPA/

OSHA concerns with air/water table contamination and personnel safety

Solution: Safely from a distance, measure liquid level using an IR Camera and verify

sensor calibration and signal values to the PLC



6. Load Cells

(715, 789, 754, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Unable to measure and verify the mv/V sensor signal value separately

from the PLC and HMI Interface.

Solution: Measure, calibrate, and source read mv signals





7. Intrinsically Safe

(707Ex, 718Ex, 721Ex, 725Ex, 28II Ex, 568 Ex, FL-45 Ex, FL-120 Ex, FL-150 Ex, HL-200Ex, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Measurement and/or calibration in a hazardous environment without

properly rated intrinsically rated equipment may violate safety, policy,

and government compliance codes

Solution: Fluke intrinsically safe product line



8. Gas Custody

(721 with 720 temperature probe, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Inability to confirm gas mass at transfer of ownership

Solution: Visual confirmation from the dual pressure measurement meter

with optional temperature probe



9. HART Sensors

(154 and 753, 709H, 729, or 754, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Require calibration from 3rd party. Most calibration communicators don't

provide 24VDC loop power or 4-20 mA feedback, and are not NIST traceable

Solution: Parallel connection to a live system, so the Fluke instrument can

communicate, configure, and calibrate HART sensors from a single platform



10. 4-20ma Sensors

(Generic, flow meters, level sensors - 77x series, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Unable to measure and verify the sensor signal value separately from the

PLC and HMI interface

Solution: Measure mA signals without breaking the loop using detachable clamp

with extension cable



11. Temperature, Humidity, Pressure and Vacuum Sensors

71x, 72x, 787B/789, 754, 750 Pressure Modules, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Unable to read the sensor measurement without a connection to the

PLC/HMI

Solution: Measure and source up 17 T/C types - 13 RTD types and volts and ohms

with sourcing; Automatically generate pressure (729); 787B/789 is also a

1000 V DMM



12. Underground Wires

(UAT600 series, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Accidental physical contact with utility/powered wires, power disruption,

process shutdown, ground faults

Solution: Safely find energized underground wires utilizing a CAT IV 600 V

locator kit



13. Industrial Air Compressors

(ii900 Sonic Industrial Imager, 1000 V ac and 1500 V dc rated insulated hand tools)

Pain: Companies without an air leak management system lose on average

30 % -50 % of their compressed air production and spend over \$30k in

wasted electrical energy

Solution: Use SoundMap to visualize both the audible and ultrasonic blended image

for the detection of compressed air, gas, and vacuum leaks