



## Measurement Instrument Technology

WTC MiT (Measurement Instrument Technology) collects critical weld data essential for an informed welding quality process. It is installed as a peripheral device that easily connects with any robot or weld control. The data collected is stored on WTC **View-R** that can be viewed as clear graphical information on WTC **View NET**. This gives the weld engineer or plant maintenance personnel the ability to monitor every weld control in the plant from a single interface.

- AC and MFDC Weld Data Detection
- Data Collection:
  - Max / Average / Min Secondary Current
  - Weld Time in milliseconds
  - Calculated Resistance
    - Average (RA), Peak (RP) and Drop (RD)
  - TCP Push Graph Archive
    - Current, Resistance, Heat and Energy
  - Expulsion Detection
- Self Testing for Secondary Current Coil and Voltage Probes
- LED Display: Weld Count, IP Address, "COIL"
- Three Ethernet Ports - Supports DLR architecture
- SoftQ™ Tool Features
- Network Ready (**View-R**) for Data Granularity

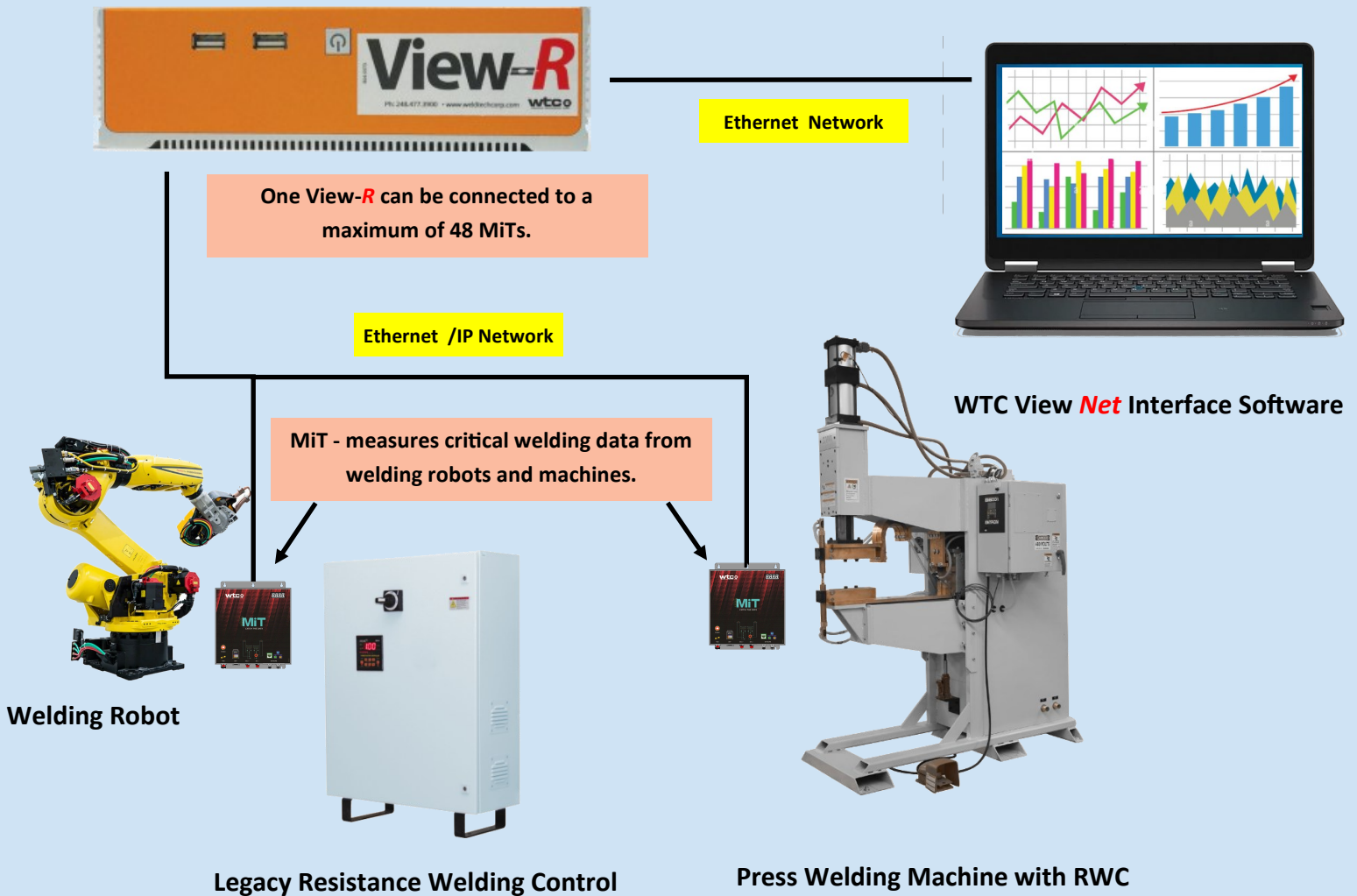


### ***Upgrade Legacy Equipment for an Industry 4.0 Factory!***

***Your old but reliable factory equipment can be monitored to ensure that quality production processes remains constant and that you can prove it with independent concentrated data acquisition.***



## WTC View-R Data Management



The MiT has analog inputs for secondary current and secondary voltage signals. These signals are used to detect when a weld starts and ends. This generates weld summary and weld graph data in a similar format to WTC weld control data.

Like WTC weld controls, the MiT's data can be collected and stored in WTC's **View-R** device. This gives you the ability to collect and monitor all resistance weld data from a single interface. The **View-R**'s traceability features can be used with a MiT to provide enhanced data granularity for the SoftQ quality system.

The MiT uses an internal algorithm to determine when a weld starts and ends based on the signal coming from the Rigowski coil. The Rigowski coil is required. There are several global parameters defining how the MiT detects the weld (AC vs MFDC, AC frequency, current range and coil sensitivity) in Network and Parameter Configurations.

After a weld is complete, the MiT will output weld summary and graph data:

**Summary:** Weld time (msec), Secondary Current (Max/Avg/Min), Secondary Resistance (Avg/Peak/End/Drop), Fault/Alert Code, Total Heat, Total Energy, Expulsion time, and more....

**Graph Data:** Secondary Current, Secondary Resistance, Heat and Cumulative Energy



# Enhance Your Productivity with Quality Using WTC Weld Controls



## RELIABILITY

- WELD TRANSFORMER PROTECTION (Flux Control)
- Weld Transformer **SECONDARY DIODE SHORT DETECTION**
- **TOOLING INTEGRITY** - Monitoring of Secondary Degradation
- **PROCESS INTEGRITY** - Confirmation of Consistency

## WELD SPILL AVOIDANCE

- **NUGGET INTEGRITY** - Verification of Nugget Size
- **TIP DRESS VERIFICATION** - Confirmation of Dressed Electrodes
- **ADAPTIVE WELDING** - Automatic Compensation for Minor Disturbances



WTC 6000  
MFDC Inverter



## TECHNOLOGY

- **SoftQ** - Monitoring of Tooling, Process and Nugget Integrity
- **RAFT™** - Adaptive Quality Algorithm
- **FORCE MONITORING** - Graphical Data of Force Profile
- **FORCE CONTROL** - Set a Forge Force Value and Send Signal to Execute to Robot
- **VOLT/SECONDS FIRING** - Switch from Constant Current to Volt/Secs Firing for Projection Welding

## QUALITY TOOLS

- **FAST RISE TIME** to Target Current - Achieve Target Current Faster
- **BALANCED FIRING** of Weld Transformer - Avoid Weld Transformer Saturation
- **GRAPHICAL REPRESENTATION** of Resistance, Current, Force and Energy (ms time base)
- **EXPULSION FREE REPORTING** - Minimize or Eliminate Expulsion



RESISTANCE CURVE



PI ENVELOPE



SOFTQ MONITORING

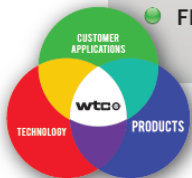


## APPLICATIONS

- **VARIOUS I/O CONFIGURATIONS** - Ethernet IP, ProfiNet, ProfiBus, Device Net, Discrete
- **MULTI-LANGUAGE**: English, French, German, Spanish, Portuguese, Chinese, Japanese, Korean, Turkish
- **ROBOTIC WELDING**
- **MANUAL WELDING**
- **FIXTURE WELDING**

## WT6000 PROGRAMMABILITY

- **SEAM WELDING**
- **PROJECTION WELDING**
- **GROUND FAULT MONITORING**
- **ANALOG I/O**
- **VARIOUS INVERTER SIZES**
- **PROGRAMMABLE OPERATING FREQUENCY** 400-2000hertz



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