Welding quality monitoring system

WET-3000A / 4000S / 3000T

Patent No. 10-0561087

Welding Expert

ARC  SPOT  DUO

MONITECH
Monitech Co., Ltd.
www.monitech.co.kr
Main Features

- Measurement respective current pulse (SPOT)
- High current inverter DC measuring circuit (SPOT) (1st in Korea)
- Patent on initial high frequency and high voltage protection technology (TIG, PLASMA)

Application

- Automobile
- Shipbuilding

Application case (1:1/Multiple)

Example installation (1:1)

Multiple installation examples
Basic Configuration of Welding Monitoring System (1:1)

SPOT Welding

Robot Controller (PLC)
- NC and Interlock Signal
- Digital Input/Output Signal
- Model Start/Finish Reset Signal

SPOT Welding Machine

- Temperature Sensor
- Air Pressure Sensor
- Voltage Sensor
- Current Sensor

Weld Checker (WVS-4000)
- CE Mark Acquired
- Built-in Calibration Function
- 3000Hz Sampling

Good Alarm

Warning Light

Real-time welding quality monitoring S/W

ARC Welding

Robot Controller (PLC)
- NC and Interlock Signal
- Digital Input/Output Signal
- Model Start/Finish Reset Signal

ARC Welding Machine

- Gas Flow Sensor
- Current Sensor
- Voltage Sensor

Weld Checker (NEA-3000)
- CE Mark Acquired
- Built-in Calibration Function
- 3000Hz Sampling

Good Alarm

Warning Light

Real-time welding quality monitoring S/W

Torch Original Point Signal

Transmission of Batches

Transmission of Measured data

S/W Main Screens (1:1)

Main screen (SPOT)

Main screen (ARC)

Data search (list)

Data search (graph)

Data search (CP/Cpk)

Setup

Standard Worksheet

Total solution of real-time weld quality control & inspection system
Simultaneous management of multiple units Basic configuration diagram of welding monitoring system

- Wi-Fi, TCP/IP, RS-232/485
- Integrated management of multiple monitoring data
- Integrated control of multiple monitoring conditions
- Up to 12 PCs can be managed

Real time current / voltage / gas wasting /
welding time, tip exchange cycle management monitoring

S/W Main Screens(Multiple)

only 1 – Main screen(ARC)
only 1 – Main screen (SPOT)
Multiple ARC / SPOT screen

Data search
Data search (CF/Cpk)
Setup
### Main Functions and Specification

<table>
<thead>
<tr>
<th>ARC Welding</th>
<th>SPOT Welding</th>
<th>TIG &amp; PLASMA Welding</th>
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</thead>
<tbody>
<tr>
<td>Model Name</td>
<td>WET-3000A</td>
<td>WET-4000S</td>
</tr>
<tr>
<td>Main Management Items</td>
<td>Current, voltage, gas flow, weld time, tip replacement interval, data upper/lower limits management and production management</td>
<td>Current, voltage, weld time, pneumatic (force), coolant temperature, heat input, welding emission prevention, tip/dressing replacement interval, data upper/lower limits management and production management</td>
</tr>
<tr>
<td>Measurement Range</td>
<td>AC, DC, Inv, DC, pulsed MIG (Possible to measure up to 2000A)</td>
<td>AC, DC, Inv, DC, Condenser DC (Possible to measure up to 200KA)</td>
</tr>
<tr>
<td>I/O</td>
<td>Maximum 31 I/O (Management by equipment, model, and beads No.)</td>
<td>Maximum 15 I/O (Management by equipment, model, point and current)</td>
</tr>
<tr>
<td>Network S/W</td>
<td>Supports networking with maximum 25 units (optional)</td>
<td></td>
</tr>
<tr>
<td>Input Power</td>
<td>AC 220V/50-60Hz</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Main 220(W) X 190(H) X 110(D) / Touch PC 510(W) X 326(H) X 50(D)</td>
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</table>

### System Overview

- Provides welding signals maximum of 31 I/O’s
- Provides real-time welding quality evaluation (F/Proof) & production management informatization system
- Production history search, Cp/Cpk analysis, standard work sheet daily checklist and automatic reporting

### Benefits

- Optimal system for evaluation of welding process and data control
- Reducing loss in process > Process stabilization > Reducing failure rate > Result in cost savings
- Optimized for systematic real-time data management
- Providing customized monitoring system
- 6 SIGMA management
- One-click report production

### Main Clients

Delivered to more than 600 companies
Real-time welding quality control and inspection solution

Real-time welding monitoring system
01. Welding quality monitoring system (ARC/SPOT/TIG)
02. Intelligent welding monitoring system (NUT & BOLT Projection welding)
03. Welding calibration master equipment (ARC/SPOT/DUO)
04. MICRO SPOT welding monitoring system
05. High speed thermal imaging welding monitoring system
06. Ultrasonic welding monitoring system
07. Laser welding monitoring system

Welding process measurement and equipment
08. Welding force measuring gauge (FORCE)
09. Current and force gauge (HANDY)
10. Advanced current and force gauge (HANDY PRO)
11. Measuring analyzing equipment for WPS/PQR (WPS)
12. Welding waveform analysis management equipment (MULTI)

Inspection and integrated monitoring S/W
13. Integrated management and control system (MIS)
14. Inspection record computerized management system for the Initial, middle, and final products (IM)