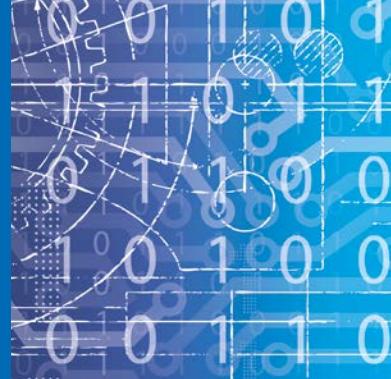


# OEM and System Integration

## Weighing Components



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News

### Reliable Performance with IIoT and Industry 4.0



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## Increase Your Competitiveness

### Save Costs with Smart Sensors

**Overall equipment effectiveness (OEE) combines a multitude of factors with two winners:**  
**First, fast installation features save production costs for the machine manufacturer.**  
**Second, rapid weighing assures higher throughput for the machine's end-users.**

#### Easy configuration saves time

METTLER TOLEDO's smart sensors offer easy connectivity to PLCs using standard automation interfaces. This means that engineers or machine and equipment manufacturers can spend less time integrating, programming and commissioning machines, saving time and money on every single project.

used to set up the equipment, which allows a technician to easily enter the IP address and get the unit talking to the PLC. Additionally, smart sensors provide condition-monitoring data for maximum uptime and predictive maintenance. This maximizes the potential of your customer's system and makes your machines more competitive.

#### Higher uptime with predictive maintenance

The second winner of smart-sensor usage is the machine and equipment manufacturer's customer. The built-in web server can be

Read on and learn more about our smart-sensor technologies and weighing electronics.

**METTLER** **TOLEDO**

## Smart Sensors – High Performance

### Bring Your Machines into the Future

**Components for automation**  
Learn more about our smart solutions for automation. Download the brochure at:  
[www.mt.com/ind-automation-components](http://www.mt.com/ind-automation-components)

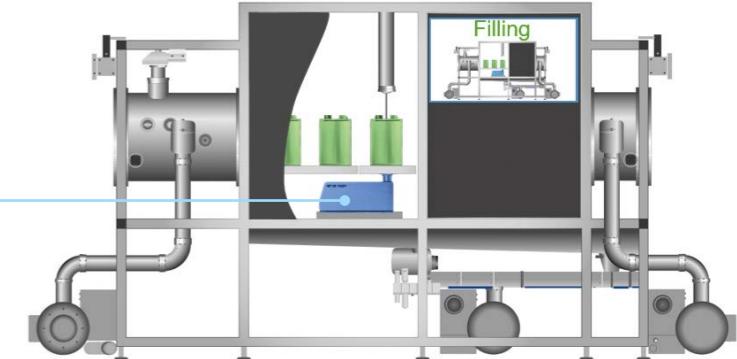


#### WMF Weigh Module – Fast Weighing, High Throughput

Industrial automation applications require multiple lines to be connected to a single control system, and the sensors in use must be able to support that requirement. The small width of the 25 millimeter WMF weigh module enables parallel multiline weighing in small spaces to achieve the highest throughput in production.

WMF weigh modules are tailored for multiline automation systems. A fully integrated Industrial Ethernet Interface (EtherNet/IP and PROFINET IO RT) allows integration into real-time automation networks.

► [www.mt.com/WMF](http://www.mt.com/WMF)

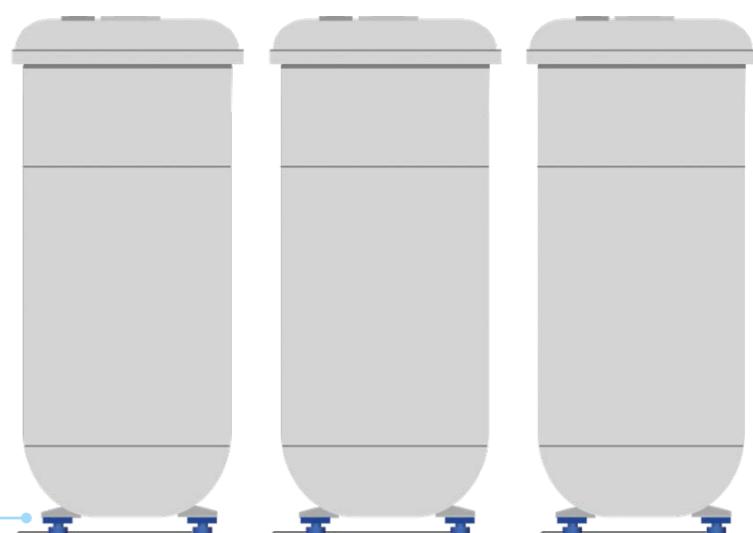


#### PowerMount Weigh Module – Active Alerts Avoid Errors

POWERCELL® load cells inside PowerMount™ weigh modules feature onboard microprocessors that provide information for predictive maintenance and adjust to environmental changes. This ensures accurate weighing regardless of the effects of temperature, linearity, hysteresis and creep. With this technology, machine and equipment builders help create maximum production uptime for their customers.

With PowerMount™, weigh modules are linked in a daisy-chain network. This eliminates the junction box, which is a common source of weighing-system failure. This solution supports the replacement of load cells and cables without costly recalibration for significant time and effort savings.

► [www.mt.com/ind-PowerMount](http://www.mt.com/ind-PowerMount)

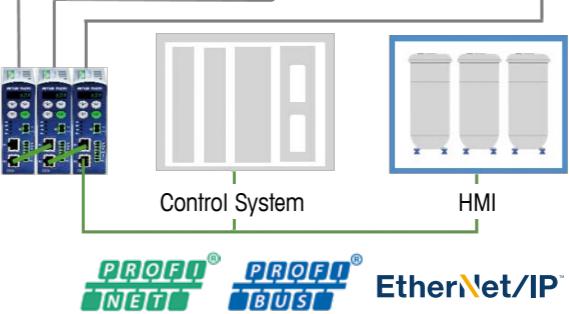


#### ACT350 Transmitter – Increase Speed and Security

The automation interface used in our smart sensors includes unique built-in security features such as synchronization, equipment status and heartbeat, which notify your controls of any disruptions in real time. Access to security-relevant data such as adjustment values and weights-and-measures settings are restricted by security switch, password or your PLC.

With the ACT weighing transmitter family, it is easy to connect all smart sensors, whether they are analog, POWERCELL® or high-precision to the PLC due to standardized communication protocols. This speeds up installation and makes your systems run faster.

► [www.mt.com/ACT350](http://www.mt.com/ACT350)



## Avoid Technological Disruption

### Stay Compliant with Industry 4.0 / IIoT

Legacy communication technology can be the bottleneck when upgrading existing equipment with state-of-the-art condition monitoring and data collection. The METTLER TOLEDO Gateway offering communication via OPC UA and MQTT standard can update existing brownfield installations to extend their profitable life.

#### Open Platform Communications Unified Architecture (OPC UA)

OPC UA is a hardware- and software-independent interoperability standard for data exchange between devices from multiple vendors. It is the assumed future data communication standard for Industry 4.0 / Industrial IoT.

#### Message Queuing Telemetry Transport (MQTT)

This popular messaging protocol is designed for connections with remote locations. MQTT offers three different qualities of service to assure delivery without duplication. The technology is popular with many customers as it is easy to implement on simple devices and requires little memory.

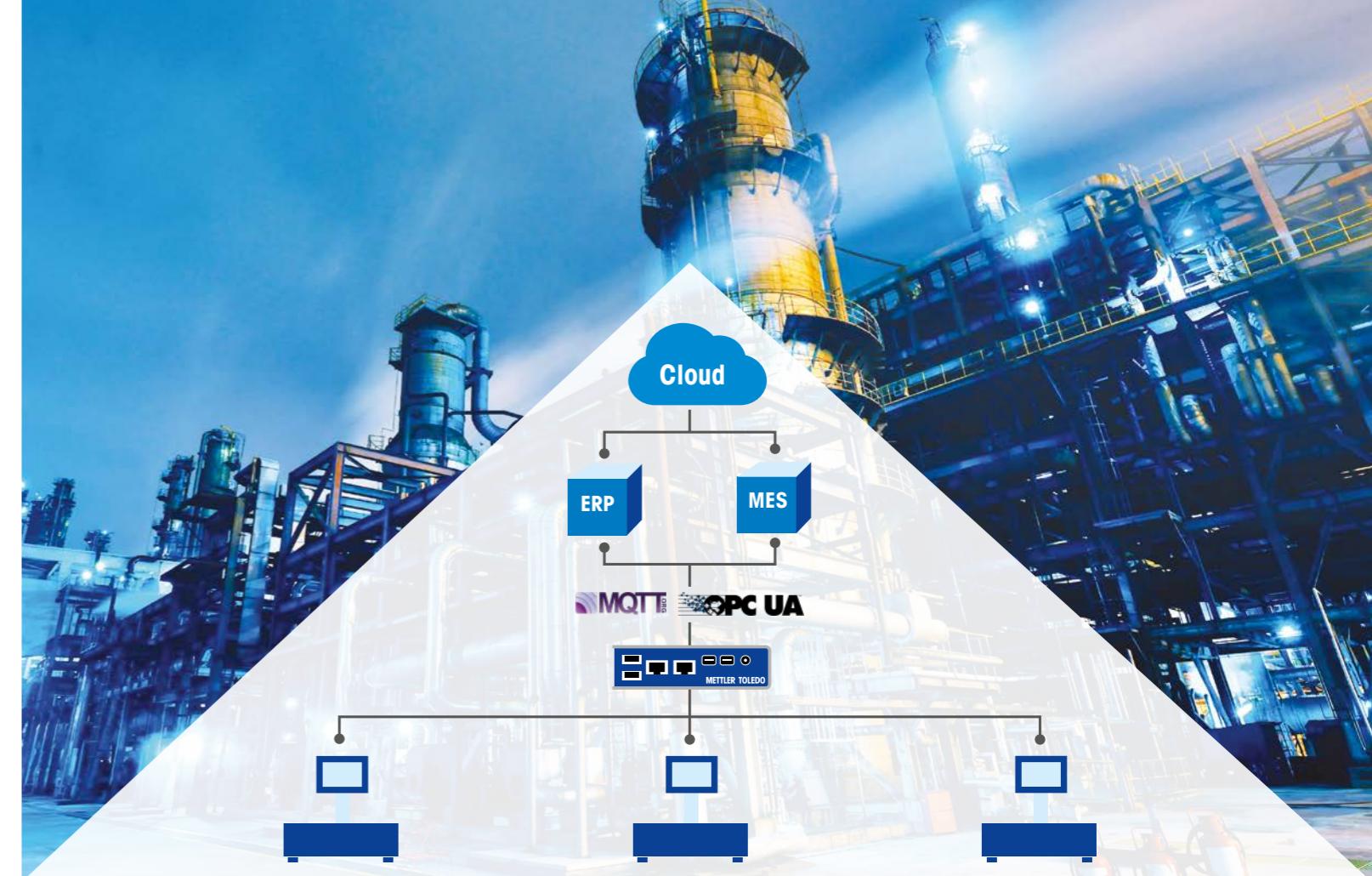
#### Comprehensive data security for safe cloud connectivity

Data security is a concern for communication with clouds. A web-based configuration service tool is available to configure the proxy server of the ACI400 Gateway. This allows convenient configuration and backup of security parameters. A built-in switch for the two LAN connectors further increases security.

#### Comprehensive parameter set dedicated for weighing

Data exchange between weighing systems and MES, ERP-System or Cloud Services can include a large variety of data types in different formats. The Gateway software from METTLER TOLEDO is designed for all common weighing applications and includes a multitude of parameters, making it superior compared to other general-purpose gateway software.

**i IIoT Gateway software ACI400 converter**  
Learn more about how to connect new and existing scales to state-of-the-art data processing:  
[www.mt.com/ind-iiot-Gateway](http://www.mt.com/ind-iiot-Gateway)



One IIoT Gateway can connect up to four scales to MES, ERP or cloud.



#### Backward compatible:

Connectivity via RS232 interface to connect up to four scales to MES- or ERP System or Cloud Services.



#### Robust:

Designed for use in production in a 34 x 115 x 82 mm housing made of aluminum die-cast.

#### Secure:

Equipped with separate 2GB LAN ports, separating communication between MES, ERP or Cloud on one port and weighing on the other port.

## Cost-Effective Scale Connectivity With a Modern User Interface

Connecting sensors and scales to your PLC or DCS is simple when you use a trusted 4 – 20 mA. This low-tech interface is a practical choice in weighing installations that only require medium-to-low readability. METTLER TOLEDO now offers this traditional hardware with modern weighing technology in the form of the new ACT100.



**Reduce setup time and save costs**  
Bringing connectivity into brown-field installations can be a challenging job due to the existing infrastructural framework. The ACT100 web server feature enables agile equipment set-up without time loss. This lets customers easily connect all of their analog scales or load cells with the PLC or DCS. Additionally, simple wiring with automatic grounding reduces the likelihood of failures in the installation phase.



**Increase your flexibility**  
Sometimes, all the bells and whistles aren't necessary. Our customers are using the new ACT100 transmitter for various applications from simple level indication and inventory, filling and flow control to weighing in process control systems. Thanks to the easy-to-read human-machine interface (HMI), customers gain a simple way to identify weighing system status and track condition-monitoring data.



**Rely on built-in service features**  
Complying with legal requirements is a must, especially in highly regulated industries. With the ACT100, customers can provide easy and fast calibration or adjustment via CalFree™ to reduce downtime. In addition, sophisticated filter settings using TraxDSP™ technology make sure that the scale consistently provides fast and precise weighing results, even in environments with extreme vibrations.



**Searching for more options?**  
Visit our website for more information about globally supported scale indicators and transmitters which easily integrate with major automation systems.  
[www.mt.com/ind-ACT350](http://www.mt.com/ind-ACT350)

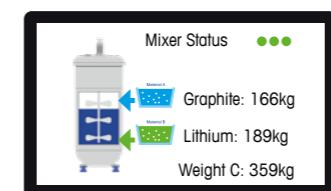


### Connectivity:

PLC or DCS

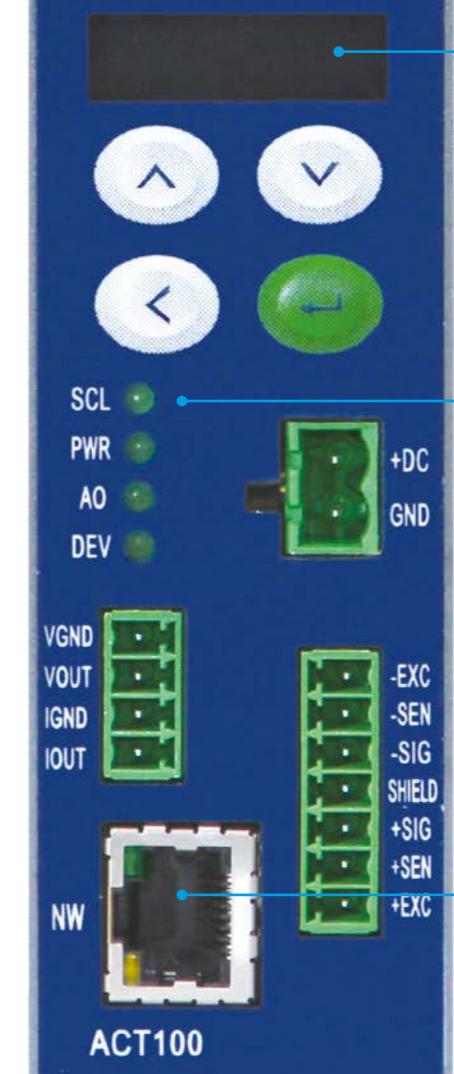


HMI

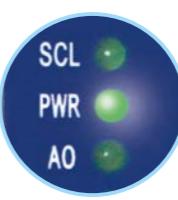


EtherNet/IP

**METTLER TOLEDO**



Use the full application range with the EX-approved version (available for Hazardous Zone 2)



Provide all relevant status information through LED indicators:

- Scale (e.g. tare out of range)
- Connection (e.g. current)
- Device (e.g. hardware check)



Enables easy maintenance and commissioning through Ethernet TCP/IP



**Product connection:** Sensors and balances



## Best-in-Class Weighing

### A Single Source for All Your Needs

Weighing is an important part in your machine development, manufacturing and logistics processes. Our broad range of weigh modules, sensors, terminals and software solutions ensure higher product quality and overall equipment effectiveness (OEE).



#### New components catalog

Order a printed version of our new components catalog to stay in the know on all of our latest innovations.

[www.mt.com/ind-OEM-catalog](http://www.mt.com/ind-OEM-catalog)



#### Tailored for machine integration

Machine and instrument manufacturers supplying the chemical, food and pharmaceutical industries need tailored weighing components. Our automated precision weigh modules offer versatile mechanical, electrical and software features for easy integration.



#### The right capacity for your application

Provide the highest accuracy by closely matching tank scale capacity to load. Our comprehensive range of load cells covers everything from 3 kilograms up to 300 tons without any compromise on safety. Features like SafeLock™ ensure easy and trouble-free installation.



#### Certified hygienic equipment

Hygienic MultiMount™ weigh modules fulfill hygienic design requirements for minimal contamination risk and easy cleaning. These modules feature SafeLock™ which ensures easy, safe and trouble-free installation.



#### Flexible mounting and weighing

Whether your customer is connecting to one or many analog or POWERCELL® digital scales, it's easy to find a METTLER TOLEDO weighing terminal that fits their production process. We offer models for mounting on a wall, column or panel as well as DIN rail mounting systems.

**1 µg**

readability to measure  
the smallest amounts  
of material

**300 t**

capacity, easy and trouble-  
free installation due  
to SafeLock™

**CIP**

inhibit growth of  
bacteria for clean-in-place  
applications

**∞**

flexibility in mounting  
and integrating our equipment

## Fast Facts on Our Solutions

## Stay Ahead of Your Competition

### Enable Tanks for Future Calibration

The new, fast calibration method works for small and medium-size tanks anywhere in the world and can be applied for initial and for re-calibration. Its ease of use and accuracy help to enable easier compliance for your end users, making your tanks more competitive.

The days of relying on time-consuming and expensive calibration methods are over. RapidCal™ offers tank and system manufacturers three big advantages to gain a competitive edge, including:

#### Reduce testing costs

When finalizing a project, equipment builders have to perform a factory acceptance test. Such a test can be a big part of the calculated costs when relying on time-consuming and expensive calibration methods. RapidCal™ is three times faster without compromising accuracy – saving time and money while ensuring compliance. Perform full capacity calibration on tanks up to 32 tons.

#### Minimize downtime

Clients working in regulated industries demand efficient calibration. They want to reduce maintenance costs, eliminate complexity and comply with industry and quality regulations, while simultaneously minimizing the time required to calibrate a tank. Enabling RapidCal™ calibration method as a part of your tank design gives you a competitive edge when it comes to eliminating downtime.

#### Benefit from simple integration

Having to handle a variety of different tank designs can be a challenge. Lean on our experience and benefit from comprehensive step-by-step guidance including technical drawings on every new project. For additional peace-of-mind, we offer RapidCal™ experts in every region of the world. Enable RapidCal™ for your tanks and choose METTLER TOLEDO as your partner for calibration execution.



#### Integrate RapidCal™ into tank designs

To learn how easy it can be to integrate RapidCal™ into your tank designs, visit:

[www.mt.com/ind-RapidCal](http://www.mt.com/ind-RapidCal)



#### How to enable RapidCal™:

##### Anchor point 1 (lug)

In this example, the anchor point on the tank above the weigh modules is a lug welded on the tank leg. This ensures both a quick set-up and stability for the calibration process.

##### Anchor point 2 (sub-plate)

The second anchor point underneath the weigh modules is a sub-plate with a threaded hole. With this construction, it is simple to mount the rod end on the sub-plate and further minimize RapidCal™ set-up time.



YOUR VOICE

MATTERS

**Tell us your opinion**

for a chance to win an Apple Watch!

To take the quick survey, visit:

[www.mt.com/ind-survey-2019](http://www.mt.com/ind-survey-2019)

## Be the First to Know

### New Videos on Trends and Technology

Stay ahead of the competition. Subscribe to our YouTube channel for the latest product and trend videos today!



#### Simple reasons to automate with METTLER TOLEDO

See how METTLER TOLEDO sensors transmit accurate weights at very high speeds through networks such as Ethernet/IP or PROFINET and learn how we support your integration needs.

► [www.mt.com/ind-automation-components](http://www.mt.com/ind-automation-components)



#### High-precision filling sets the benchmark for product quality

See how METTLER TOLEDO helps you to achieve the balance between high throughput and maximizing production yield in filling applications.

► [www.mt.com/ind-filling-applications](http://www.mt.com/ind-filling-applications)



#### Enabling everyday products with high resolution weighing

See how the high resolution of METTLER TOLEDO APW weigh modules help to produce products that we all use every day.

► [www.mt.com/ind-filling-applications](http://www.mt.com/ind-filling-applications)

Visit our YouTube channel to see these videos and many more: 

► [www.mt.com/ind-youtube](http://www.mt.com/ind-youtube)

#### METTLER TOLEDO Group

Industrial Division

Local contact: [www.mt.com/contacts](http://www.mt.com/contacts)

[www.mt.com/ind-weighing-components](http://www.mt.com/ind-weighing-components)

For more information