In today’s global economy, customers are constantly striving to improve on their own—but they also depend on suppliers like ABB to come up with novel ideas that will increase asset utilization and enhance the services they provide. It was this spirit of collaboration that drove ABB developers to design DQR Code assistance for analyzers (“DQR Code” for short). This innovative application expedites ABB’s service response to customer issues to make sure ABB-manufactured assets stay online and customer production keeps running.

“DQR Code assistance for analyzers” is an ABB service product that provides comprehensive diagnostics and a real-time health check of an analytic system without any need for training or remote connectivity. This innovative application expedites service response, so ABB-manufactured assets stay online and customer production keeps running.

From QR to DQR

Until now, when issues with ABB’s continuous gas analyzers arose, most customers – through lack of on-site expertise to quickly troubleshoot problems – had to contact their local ABB office for help. While effective, this approach is not as efficient as it could be, nor does it lead to problem resolution as quickly as the digital age demands. This is where DQR helps out.

DQR Code assistance for analyzers expedites ABB’s service response to make sure ABB-manufactured assets stay online and production keeps running.

Traditional QR (quick response) codes are ubiquitous bar-code-like squares that can be scanned by mobile devices such as smartphones to access information resources, such as a website, instantly. DQR (dynamic QR) is an evolution of the QR code.
DQR Code enhances service response for a range of ABB equipment by providing comprehensive diagnostics and a real-time health check.

Normally, QR codes are static, often printed on a poster or advertisement, for example, and can only display a limited amount of predefined, hard-coded information. In contrast, DQR code generation reflects the real-time status of the device in question: Every time a new DQR code is requested by the user, the DQR software pulls updated data and status information from the central unit, which can be in control of several separate ABB gas analyzer modules. The DQR codes combine with the interactive display on the continuous gas analyzer systems to give operators a real-time analysis and health check of their gas analyzer’s performance history and to provide them with direct and quick access to important device serial number information that ABB’s service professionals require to access a device’s history and ideal-state status.

The DQR code generated reflects the real-time status of the device in question.
The operator must simply scan the code on the analyzer display with any QR code reader app (such as on a smartphone) or ABB’s myInstalledBase app (myIB), which is available for download from the Apple Store and the Google Play Store. If needed, the code can be forwarded via e-mail to the local ABB office for fast access to advice and guidance on the ABB product or even that specific unit, including repair history, parts requirements, etc. Operators do not need training or remote connectivity to utilize DQR Code.

Operators do not need training or remote connectivity to utilize DQR Code.

The DQR value proposition

It is no secret that a digital transformation is sweeping the industrial world. As part of the “Industry 4.0” transformation, ABB’s DQR Code assistance for analyzers introduces a new way to increase measurement data availability for customers who have analyzers installed in remote locations, have strict remote connectivity policies, are looking to reduce the burden of operator knowledge needed to run advanced analytical systems or are seeking competitive advantage that speed can provide.

The goal of this technology is clear: To simplify service delivery without complex installations or procedures in order to improve mean time to repair (MTTR), operator efficiency and plant uptime.

Simple to use and effective in troubleshooting, DQR Code belongs to a generation of customer support solutions designed to enhance collaboration between customers, equipment and ABB. That is why all of ABB’s continuous gas analyzer systems for emissions monitoring (AO2000, EL3000, EL3010-C, EL3060, ACX and ACF5000) now come with DQR Code as a standard feature.

ABB’s continuous water analyzers for consumer applications, the Aztec 600 chlorine analyzer series and silica analyzers for process control in industrial applications (the Navigator 600 series) will also be DQR Code enabled. ABB’s RVG200, SM500F, SM300 and RDM500 paperless data recorders will also come equipped with DQR Code as a standard feature. And every Advanced Top Works platform will also have DQR Code.

DQR Code is backward compatible, so it can be added to equipment retroactively for customers with existing installations.
In order to turn QR data into actionable intelligence, ABB developed a software tool called ABB Ability™ Verification for Measurement Devices that reads the QR code text file and prepares a summary report detailing system status and any issues the unit may be having. Users can then automatically synchronize the summary report with their ABB ServIS installed base management system to create a recommended service action, such as a workshop repair, site repair or telephone assistance. An e-mail notification can also be sent with the recommended service recommendations.

ServIS is ABB’s system for storage and management of the installed base information of the products a particular customer is using. The ServIS tool is used by ABB personnel and customers to find customer and installed-equipment information. Using mobile devices such as tablets, smartphones or laptops, service engineers can access life cycle status, technical data and documentation, service reports of previous maintenance, recommended services and other customer data.

From data to intelligence
ABB chose QR codes because they are fast, familiar and easy to use. Almost anyone who has a smartphone or tablet knows how to scan a QR code. Combined with mobile devices, DQR Code represents an innovative way to communicate with customers, allowing, for instance, improved case-specific support by ABB that results in increased availability of analyzer assets. Once established, this type of familiarity opens up a host of new ways for operators to interact with devices that improve the users’ experience by allowing them to work with more information more effectively.

Users can automatically synchronize the summary report with their ABB ServIS installed base management system to create a recommended service action.
After a service action is complete, this data is updated by a service engineer and uploaded to the system. The data is also sent to myABB, a 24/7 customer portal for viewing installed base and related information, including features such as the ABB library, training material and service agreement details.

**Cyber secure**
Despite all the attention devoted to Industry 4.0 and the Industrial Internet of Things (IIoT), there is still reluctance among many plant operators to allow smart devices into their plants. In this age of heightened concerns regarding cyber-security, this makes sense.

That is why DQR Code is a noninvasive technology designed to transfer information from device to user securely. DQR Code information is read-only. Operators cannot write any data to, or run any software on, the device via the DQR Code interface. And QR codes, in general, are a low-tech and well-established technology that is reliable and easy to read under difficult conditions, a common occurrence in the harsh environments in which ABB’s continuous gas analyzers are often found.

DQR Code is a safe entry point into service processes and has the potential to significantly speed up the entire service delivery process by providing operators and engineers with the safe, reliable, convenient and quick access to information they need to make critical real-time decisions.
Looking ahead

The future trajectory of DQR Code will see it move from the enhanced troubleshooting and improved human-machine interactions available today to predictive maintenance. By coupling DQR Code data with the cloud, analytics and artificial intelligence (AI), ABB will be even better placed to solve customer problems remotely.

Although just beginning to make a significant impact, AI is set to change much about how the world functions and how resources are conserved, consumed and utilized. By combining the forward-looking capabilities of AI with advanced diagnostic algorithms, ABB will be able to both troubleshoot continuous gas analyzer issues more effectively and efficiently, and will also be able to prevent problems before they start, helping plant operators increase productivity, reduce downtime and improve resource utilization.

Put plainly, DQR Code is a simple elegant solution to a complex problem.

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**The future trajectory of DQR Code will see it move from the enhanced troubleshooting and improved human-machine interactions available today to predictive maintenance.**

ABB Measurement Care has three service levels:
- Rapid response
- Life cycle management
- Performance improvement

DQR Code assistance for analyzers has been incorporated into the rapid response level, fulfilling the goal of accelerating service response to ensure maximum asset and process uptime → 5.

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**Increased asset and process availability**
- Case-specific information and individual support
- Faster communication enabled by complete information package
- Faster issue resolution due to case-specific service recommendations and better preparation of service calls

**Higher operator efficiency**
- A standardized, platform-independent feature
- Easy, reliable data transfer
- No additional hardware or working steps required
- Simple access requiring no detailed knowledge
- Standardized output

**Improve life cycle management**
- Simplified product registration
- Better data quality of installed base
- Complete product history