Holistic quality assurance

SYSTEMS QST™

QUADRIGOMM | QUADRIGOMASTER | QUADRIGOVISU

Hardware modules for your INLINE quality assurance

| POWER | EFFICIENCY | CONTROL | QUALITY |

HARMS+WENDE QST GmbH
QualitätsSicherungsTechnologien

SYSTEMS QST™

The suitable hardware modules for your
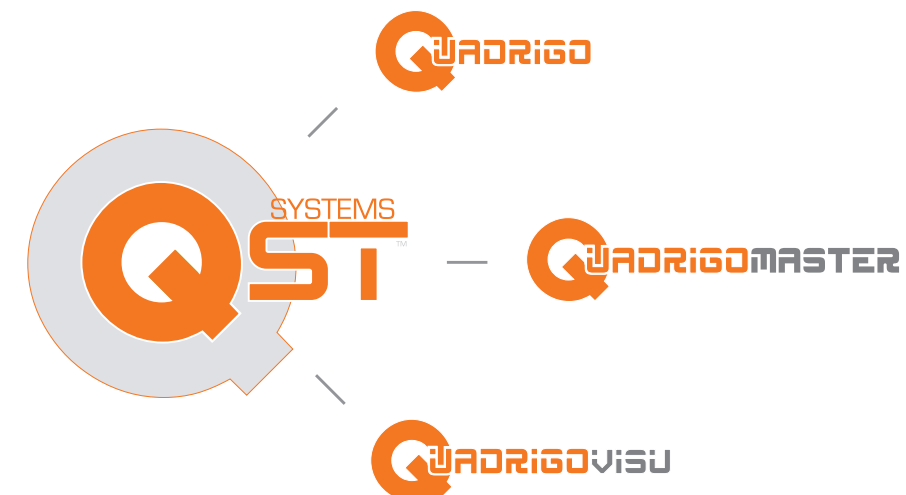INLINE quality assurance to QST standards.

Welcome to the world of QST system

PQS system world products meet all the demands made of a cost-optimised and efficient system platform for the quality assurance system of the future.

This includes all the appropriate and essential hardware modules needed for rapid and efficient use of the QST software modules. The standards here are just as high as those in our software products.

Field-oriented, rugged and powerful systems for professional industrial use that keep the user in mind. All modules can be flexibly and individually combined. A sensible and economic solution is thus available for virtually any requirement.

QUADRIGO

QUADRIGOMASTER

QUADRIGOVISU

On the following pages the products QUADRIGO, QUADRIGO MASTER and QUADRIGO VISU are presented in detail.

These are optimized for our software products and provide for future expansion requirements sufficient reserves.

QUADRIGO

Compact performance
of online metrology and INLINE quality assurance
for your joining processes.
Modular, rugged and intelligent.

QUADRIGOMASTER

The data specialist that has no fear
of large data quantities.
Manages your data reliably and offers sufficient
performance reserves and safety too.

QUADRIGOVISU

All information at a glance.
Easy, quick user interface
Our monitoring software
packed in an elegant slimline design.

QUADRIGO

Autonomous high-performance metrology module for installation in switch and control cupboards.

Used to record analogue process data and as an interface to analogue technology. .
With its own processor core and memory module onboard for maximum freedom from malfunction and Operating reliability.

Complete QUADRIGO MM4000
with 16 simultaneous metrology channels and 4 Interbus modules.

Q100-CLM
central logic modules

Q300-UMB
metrology card modules

Q400-CBI
field bus modules
as accessories

Q900-UPM
mains power
unit modules

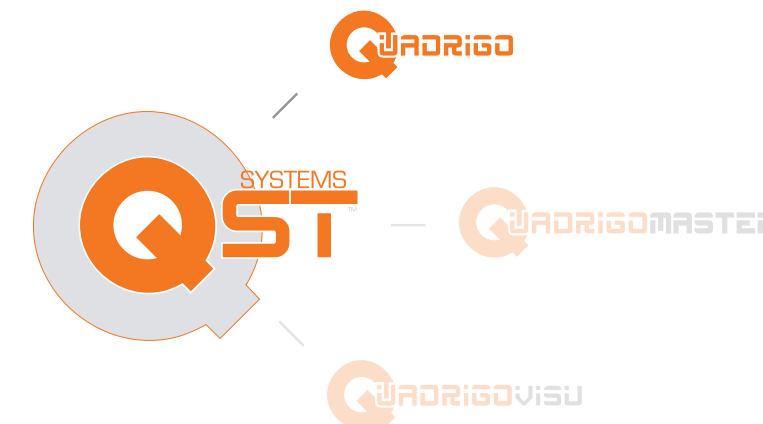## Overview of the QUADRIGO MM range

The compact, modular QUADRIGO metrology modules can be integrated in your plant or added later as desired.

The QUADRIGO MM1000, MM2000 and MM4000 ranges are available. They're designed as universal scaleable modules that can be tailored to meet your needs. They can be connected to virtually all standard welding control systems and power sources.

Up to a maximum of 4 joining processes with 4 metrology performance indicators can be connected simultaneously per module High metrology precision, maximum reliability and freedom from malfunction were primary design considerations.

Designed as installation modules for extant switch and control cupboards, they can be installed in virtually any plant without wasting space.

HIGHLIGHTS of the QUADRIGO MM range

- for universal use with all standard welding control systems and power sources
- modular high-performance metrology module for a variety of joining procedures
- top-quality analogue process metrology data recording, e.g. current voltage, force, path
- very reliable and trouble-free
- flexible upgrade concept for later system expansion
- designed as an installation module for extant switch and control cupboards
- various field bus interfaces available as options
- fully automatic ejection of rejects
- 100 % control
- maintenance free

Features QUADRIGO	MM1000	MM2000	MM4000
max. Number of sample points	1 simultaneously	simultaneously up to 2	simultaneously up to 4
Measurement channels per tag	4 analog	4 analog	4 analog
Total simultaneous channels	maximum 4	maximum 8	maximum 16

Subject to technical changes

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QUADRIGO MM1000

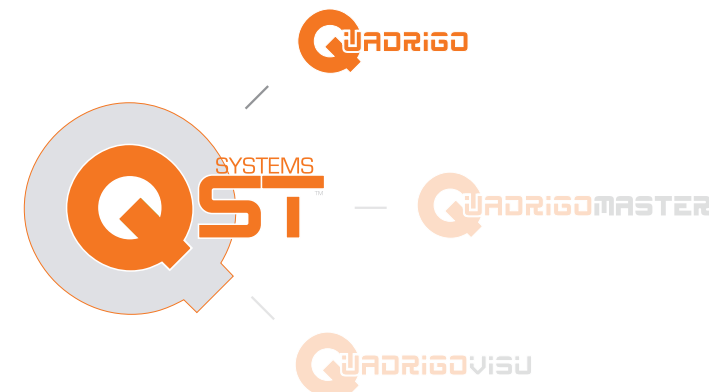## The QUADRIGO MM1000.
When every millimetre counts.

The QUADRIGO MM1000 is our most compact QUADRIGO product and was specially designed for problematical spatial conditions.

It's especially suitable for direct installation in welding control systems (switch cupboards) and is hence easy and simple to integrate.

The QUADRIGO MM1000 is an ideal modification to extant or reused plant and components.

The maintenance-free design and high degree of reliability make it feasible to install it e.g. directly in welding control systems, projection welding machines and control cupboards.

HIGHLIGHTS of the QUADRIGO MM1000

- Very compact high-performance module for a variety of bonding techniques
- High quality metrology recording of analogue process data
- High reliability and interference immunity
- Designed as a module for insertion in extant control and switch cupboards
- Offers a variety of field bus interfaces
- Numerous installation options using appropriate adaptors

QUADRIGO MM2000

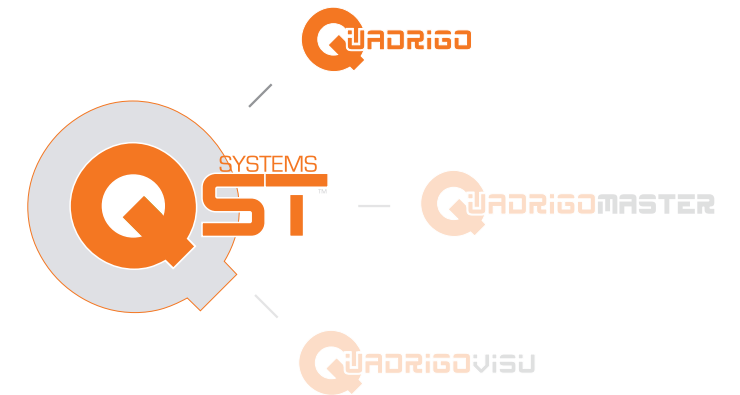## The QUADRIGO MM2000.
More flexibility for you.

The QUADRIGO MM2000 is a medium range QUADRIGO series product and specially designed for small spaces.

Extant plant components are often used for more than one project.

The process safeguarding requirements change but a completely new plant isn't covered by the budget or is technically unnecessary.
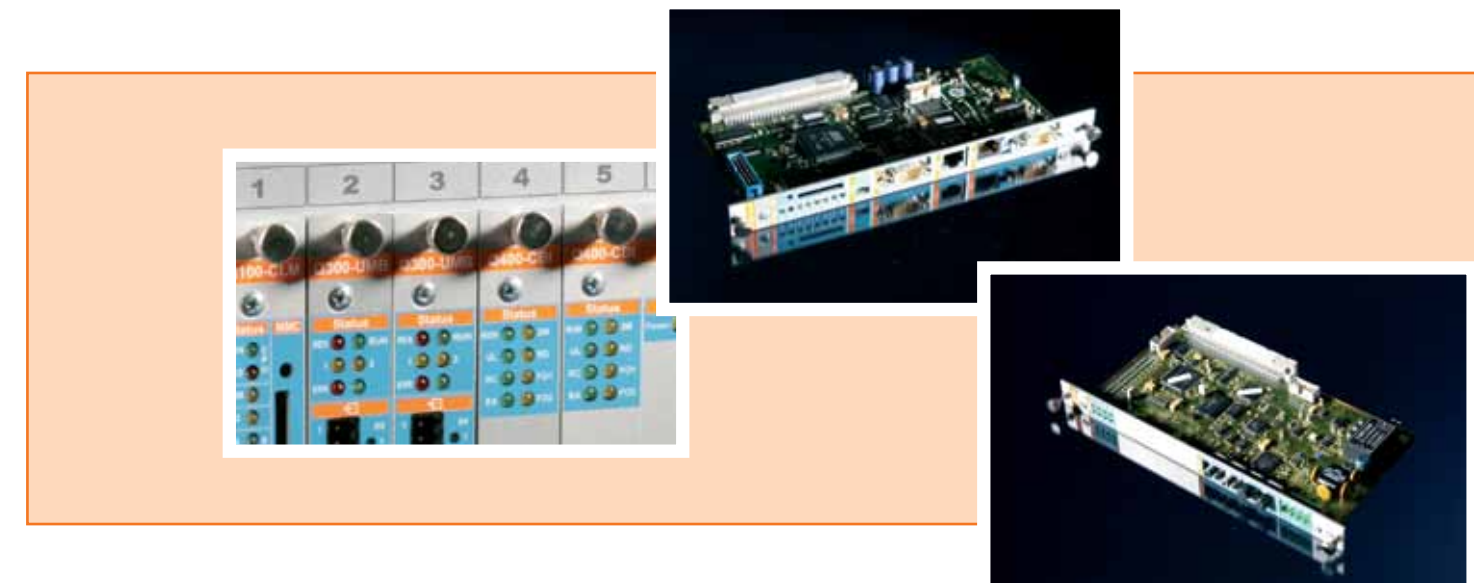
The QUADRIGO MM2000 is ideal as a modification to extant or reused plant and components.

The maintenance-free design and high degree of reliability make it feasible to install it e.g. directly in a welding control system, projection welding machine or control cupboard.

HIGHLIGHTS of the
QUADRIGO MM-2000

- Compact high performance module for a variety of bonding procedures
- High quality metrology recording of analogue process data
- High reliability and interference immunity
- Designed as a module that can be installed in extant control and switch cupboards
- Offers a variety of field bus interfaces
- Can be expanded to 2 simultaneous metrology stations with a total of 8 analogue metrology channels.

QUADRIGO MM4000

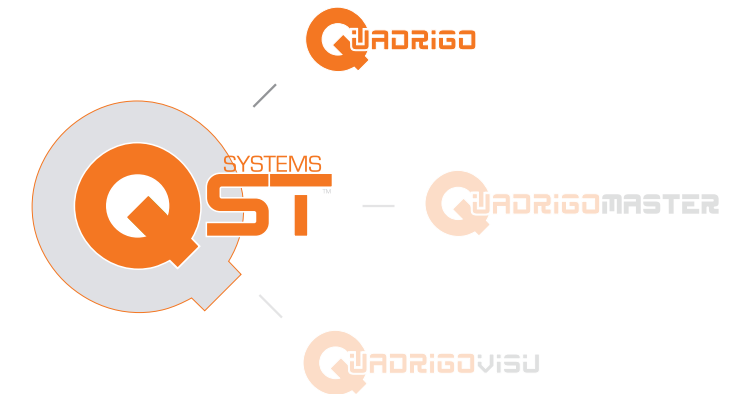## The QUADRIGO MM4000.
Maximum flexibility and economy.

The QUADRIGO MM4000 is an example of the most flexible QUADRIGO range of products and is specially designed for normal spatial conditions.

The system can be expanded to accommodate up to 4 simultaneous metrology stations.
Upgrade kits can hence be used to accommodate further plant in the monitoring system.

This yields an even better cost/benefit ration than the QUADRIGO MM1000 and QUADRIGO MM2000.
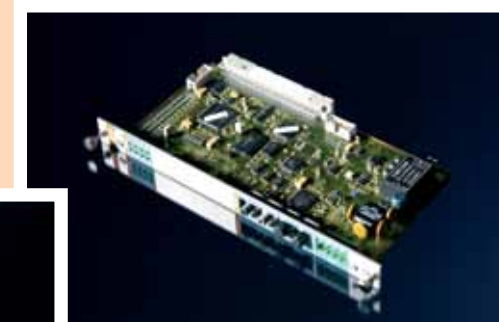
The QUADRIGO MM4000 is ideal for initial equipping or integration in extant or reused plant and components.

The maintenance-free design and high degree of reliability make it feasible to install it e.g. directly in a switch cupboard.

QUADRIGO

QST SYSTEMS

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HIGHLIGHTS of the QUADRIGO MM-4000

- ○ Compact high performance module for a variety of bonding procedures
- ○ High quality metrology recording of analogue process data
- ○ High reliability and interference immunity
- ○ Designed as a module for installation in extant switch and control cupboards.
- ○ Offers a variety of field bus interfaces
- ○ Can be expanded to up to 4 simultaneous metrology stations with 16 analogue metrology channels.

QUADRIGOMASTER

The QUADRIGO MASTER.
Outstanding data management

The data specialist that can handle large volumes.
Manages your data reliably and always offers security and adequate reserves.

The security of your production data is of course our very highest priority The right system structure is what's needed, especially when the data volume is large.
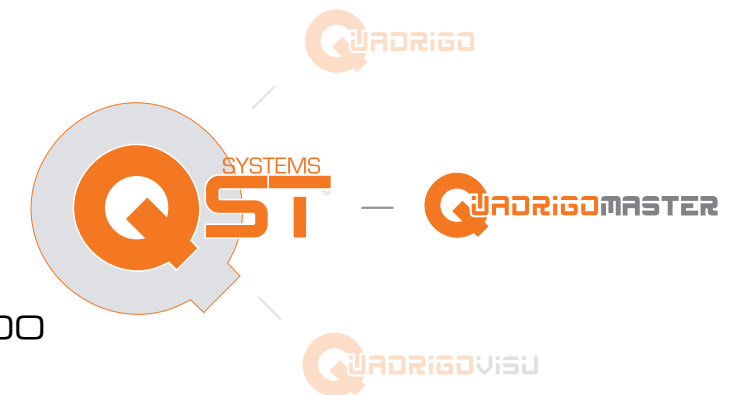
The QUADRIGO Master copies the data from all the QUADRIGO metrology modules connected to it in the database. As a rule you won't notice this module. It runs as a client in the background and the QUADRIGO VISU modules ensure rapid and reliable operation and visualisation of the entire system.

This gives your inline process monitoring system a solid basis and your product and process can be seamlessly traced.

The QUADRIGO Master is based on state-of-the-art technology Made in Germany. It was designed for installation in switch cupboards and

has integrated UPS. It processes and archives all incoming process data based on a database server.

The harmonised PQS Module software package is of course available.

QUADRIGO

SYSTEMS QST — QUADRIGOMASTER

QUADRIGOVISU

HIGHLIGHTS of the
QUADRIGO Master MA1600

- IPC in ultracompact aluminium housing
- Integrated UPS
- Designed for installation in switch cupboards
- database server on board
- Industry-standard PC technology
- Made in Germany

- High quality manufacture even in detail
- Degree of protection IP20
- Status LEDs

- Quick change HDD
- Replacement on site without tools
- Rugged aluminium housing for tough conditions

- All connections on the front
- Operating voltage (up) 24V DC
- Various fastening adaptors for installation on mounting rails Angle and mounting plates for INLINE QS modules

QUADRIGOVISU

The QUADRIGO VISU.
Easy to use with all information at a glance.

Safe operation and easy visualisation are major conditions for efficient use of an inline quality assurance system. Complex production plant require suitable functions and information systems. Not everything should or may be feasible everywhere. Important information must be quickly and reliably available, however.

Our QUADRIGO VISU product range meets these needs. They were devised as control units in slimline design. They can be installed virtually anywhere and depending on version offer easy TOUCH control. You can take it for granted that these systems are designed for professional use in industry and offer maximum reliability.
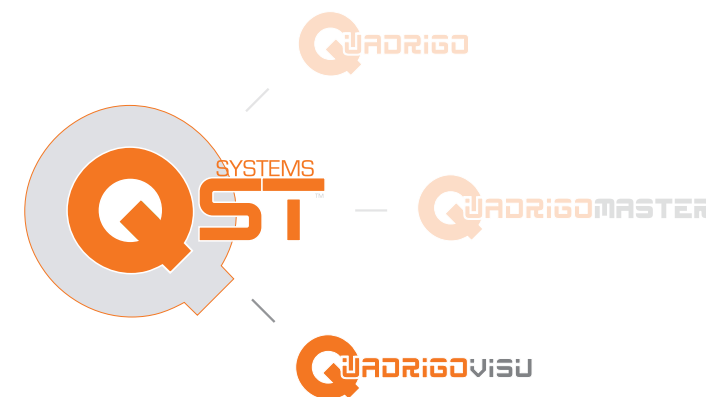
PQS software package on board - harmonised performance for your production process.

Scope of delivery includes a harmonised licensed software package tailored to your needs. You thus buy the goods and services you genuinely need. The upgrading option enables you to

ensure that the system always meets your needs even when they change. This yields long-term economical use of your investment.
QUADRIGO VISU PLUS, QUADRIGO VISU BASE, VISU BASE TOUCH, VISU iPLUS and VISU iBASE TOUCH are all available.

They're all very flexible and can be individually combined. This virtually gives you the right economical solution whatever your need.

HIGHLIGHTS of the
QUADRIGO VISU product range

- *Designed for tough operating conditions*
- *Harmonised and modular hardware / software packages available*
- *Ergonomic and flexible system design*
- *High quality rugged housing engineering*
- *Degree of overall protection IP65**
- *Integrated UPS* for maximum data security*
- *Optional panel or installation system*
- *Optional rugged keyboard or touchscreen control*
- *19" and 15" TFT display in brilliant colour*
- *State-of-the-art industry standard PC technology*
  Made in Germany

*) depending on the selected system type

QUADRIGO-VISU	VISU PLUS	VISU BASE-Touch	VISU iPLUS	VISU iBase-TOUCH
Product designation	19" panel system with Plus software package	15" panel system with Base software package	19" inbuilt panel system with Plus software package	15" inbuilt panel system with Base software package

Subject to technical changes

The systems only function in combination with the appropriate licensed QUADRIGO VISU / QUADRIGO product. Other options available on request
Not all options can be combined. Please consult your HWH QST dealer on this. He/she will advise on the current availability of individual options. This catalogue doesn't replace technical data sheets / specifications.
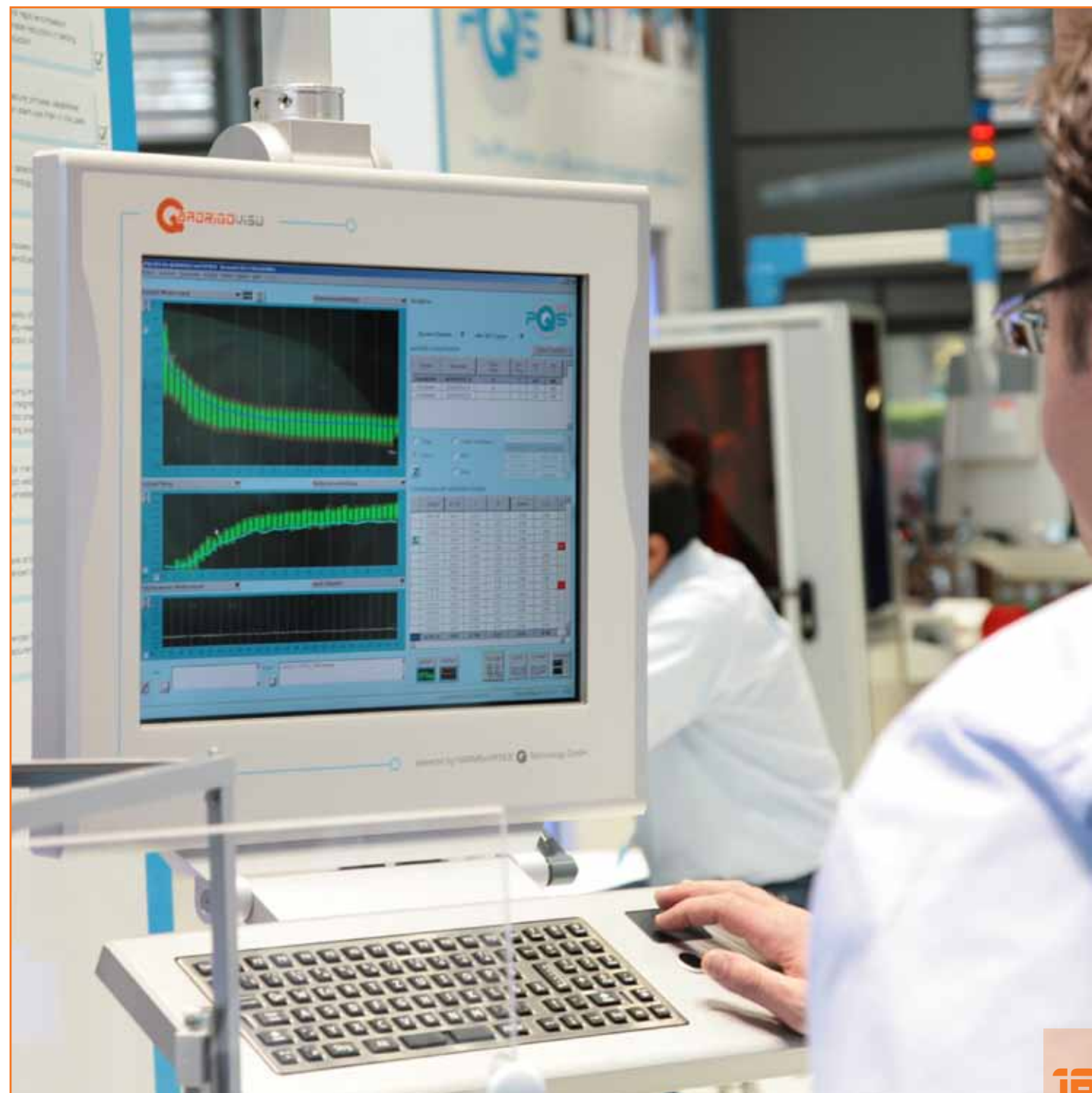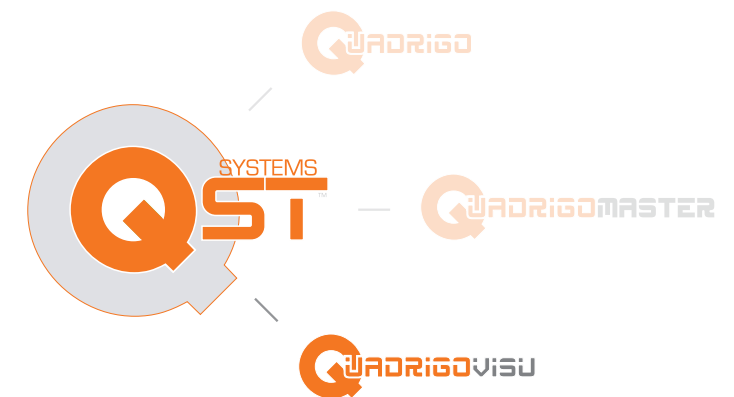
QUADRIGOVISU

PLUS 19"

QUADRIGO VISU PLUS 19"
Your process control station - full functionality and performance

The QUADRIGO VISU PLUS represents within this product range the pinnacle.
This high-performance industrial PC offers the user all the function and information volumes the PQS software products have to offer.

You get a harmonised Software-/ Hardwarepackage that allows all feature sets from Super User Mode up to the user-mode in a system. The user management ensures a demand assignment of rights and protects against operator error.

Designed for mounting arm with integrated UPS design. Processes and archives all incoming process data based on a database server.

HIGHLIGHTS of the
QUADRIGO VISU PLUS 19"

- *Designed for tough operating conditions*
- *Harmonised and modular hardware / software packages available*
- *Ergonomic and flexible system design*
- *High quality rugged housing engineering*
- *Degree of overall protection IP65**
- *Integrated UPS* for maximum data security*
- *With rugged keyboard*
- *19" TFT display in brilliant colour*
- *State-of-the-art industry standard PC technology*
  Made in Germany

QUADRIGOVISU

BASE TOUCH 15"

QUADRIGO VISU BASE TOUCH 15"
Decentralised information management

The QUADRIGO VISU BASE Touch constitutes the user level in the product range.
This high performance industry-standard PC offers users harmonised PQS software product function and information scope.
It is thus ideally suitable for e.g. distributed visualisation at several different places on a production line.
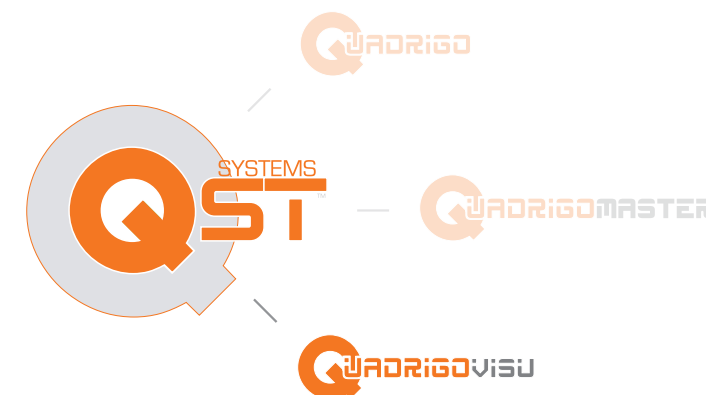
Safe operation and easy visualisation are major conditions for efficient use of an inline quality assurance system.

Complex production plant require suitable functions and information systems.

Not everything should or may be feasible everywhere. Important information must be quickly and reliably available, however. Information can thus be accessed and system messages acknowledged quickly.

We will supply you with a harmonised soft- and hard-ware package enabling you to utilise the user mode function scope. The user administration ensures allocation of rights as needed. It also protects against incorrect operation / control.

Designed for carrying arm mounting, it displays incoming process data. The operation / control of the system is via a 15" TOUCH SCREEN.

HIGHLIGHTS of the
QUADRIGO VISU BASE TOUCH 15"

- *Designed for tough operating conditions*
- *Harmonised and modular hardware/software package available*
- *Ergonomic and flexible system design*
- *High quality rugged housing engineering*
- *Degree of overall protection IP65*
- *Touch control*
- *15" TFT display in brilliant colour*
- *State-of-the-art industry standard PC technology*
  Made in Germany

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QUADRIGO VISU iPLUS

QUADRIGO VISU-iPLUS 19"
The process control station you can install yourself

The QUADRIGO VISU iPLUS differs from the QUADRIGO VISU PLUS in design.
It was intended to be an inbuilt PC controlled via its own keyboard. This makes it possible to e.g. use an extant control cupboard for simultaneous control with other suitable equipment.
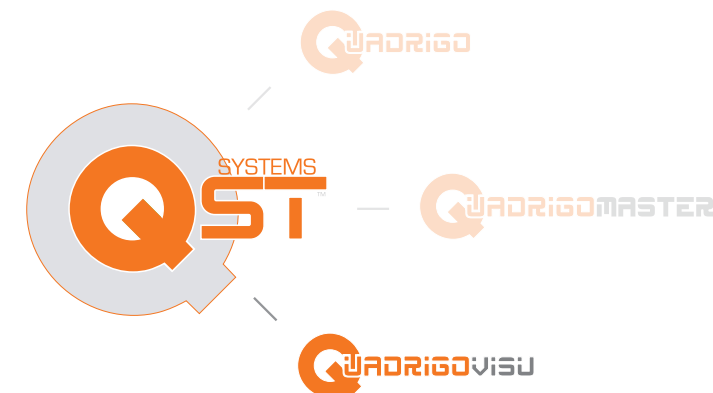
This industry-standard PC offers users all the function and information scope that PQS software products make possible.

It is a harmonised software / hardware package that offers all the SUPERUSER mode function scope up to and including the operator mode in a system.

User administration ensures rights allocation as needed and thus prevents faulty control.

It's designed for switch cupboard installation with integrated UPS. Processes and archives all incoming process data based on a database server.

HIGHLIGHTS of the
QUADRIGO VISU-iPLUS 19"

Designed for tough operating conditions

Harmonised and modular hardware/software package available

All connections on the back

Status LEDs

Installation system with IP65 degree of protection on the front and IP20 on the back

19" TFT display in brilliant colour

State-of-the-art industry standard PC technology
Made in Germany

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QUADRIGOVISU

iBASE TOUCH

QUADRIGO VISU-iBASE TOUCH 15"
Decentralised information management for client installation

The QUADRIGO VISU iBASE TOUCH differs from the QUADRIGO VISU BASE Touch in its design. It is intended as a PC for client installation controlled via TOUCHSCREEN.
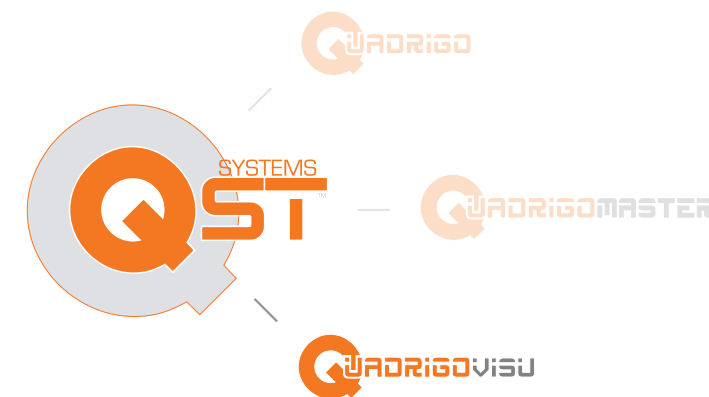
The QUADRIGO VISU iBASE Touch constitutes the user level in the product range. This industry-standard PC offers users the harmonised function and information of the PQS software products.

It is hence suitable for distributed display at several stations on a production line. Information can thus be accessed and system messages acknowledged quickly.

This is a harmonised software/hardware package enabling you to utilise the user mode function scope. The user administration ensures allocation of rights as needed and thus prevents incorrect operation / control.

Designed for installation in switch cupboards and display of incoming process data. The product is controlled via a 15" TOUCH SCREEN.

HIGHLIGHTS of the VISU-iBASE TOUCH 15"

- *Designed for tough operating conditions*
- *Harmonised and modular hardware/software package available*
- *All connections on the back*
- *Status LEDs*
- *Installation system with IP65 degree of protection on the front and IP20 on the back*
- *15" TFT display in brilliant colour*
- *Touch Screen control*
- *State-of-the-art industry-standard PC technology Made in Germany*

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Disclaimer:

We have made every effort to ensure the veracity and currency of all the information herein. HARMS+WENDE QST GmbH reserve the right to change the availability and specifications of their products at any time in furtherance of their policy of constantly improving same. Such changes will be advised HARMS+WENDE QS Technologien as quickly as possible. Please ask your HARMS+WENDE QS Technologien dealer for the latest information. The colours herein may differ from reality for reasons of printing technology.

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