



Quantity

3T:88

AE1:88 88 88

Target 350

3T:88

AE2:88 88 88

Actual 341

3T:88



51



3T:88

3T:88

3T:88

AE2:88 88 88

microSYST  
DISPLAYSYSTEMS



The success of microSYST for over 30 years is our pioneering spirit and the fact that our eyes are firmly fixed on the future.

Managing owner Harald Kilian

# Real pioneering spirit in the LED technology

## **“Luminous” know-how for more than 30 years**

Convinced of the idea, microSYST is developing, manufacturing and selling high-quality LED display systems since its foundation in 1985. In-house ideas and product developments helped the light-emitting diodes (in short: LED) to become more and more important and built at the same time the basis for the comprehensive technical know-how in the LED technology.

## **LED stands for an environmentally conscious future**

Until today that pioneer and innovation spirit is deeply rooted in the company. With a future-oriented thinking and environmental awareness, microSYST still utilises the clear benefits of LEDs: today, energy efficiency and sustainability are more important than ever and will ensure the future success of the LED technology.

## **Passion for technology - for the best solutions**

Due to the interest in technical details and the flexibility regarding individual requirements combined with convincing technology, design and quality, microSYST is able to supply high-quality LED display and order picking systems for almost all customer-specific requirements.

## **Certified quality management**

Whether customer-specific production or the delivery of standard components – quality is the top priority for microSYST. Resulting from the own quality requirements and for the benefit of satisfied customers.

Due to the high quality standards, the integrated quality management system has been certified according to DIN EN ISO 9001 in 2014. Since then this standard is regularly checked by independent institutions and its effectiveness is confirmed.





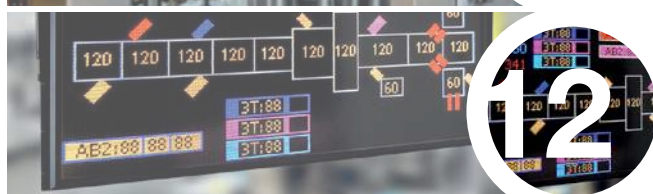


08

## Large Format LED Displays

### Line-oriented LED Displays

The 7-coloured **mline** series

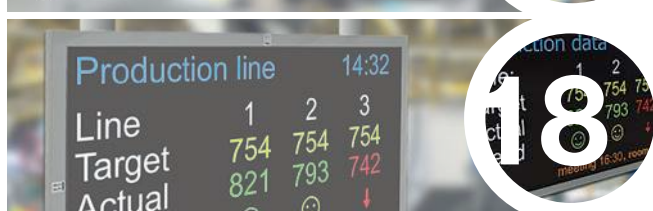


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## Large Format LED Displays

### Graphics Compatible LED Displays

The 7-coloured **migra** series



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## Monitors

### TFT Industry Monitors

The **migra** TFT series



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## Panel-Mount Displays

### Numeric Panel-Mount Displays

The **mipan** series



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## Panel-Mount Displays

### Alphanumeric Panel-Mount Displays

The **mitex** series



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## Success Stories

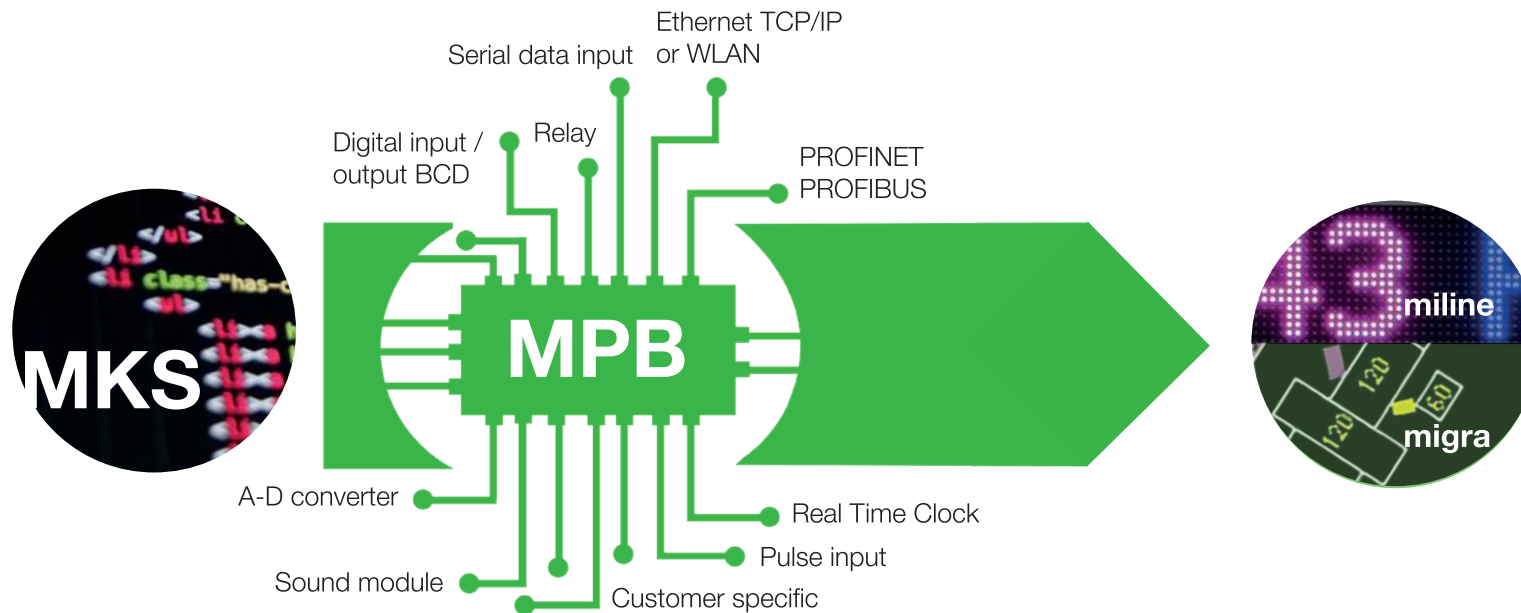
### Customer-specific Display Systems

# Large Format LED Displays

## A modern LED display concept with intelligent activation

With regard to the new display generation called migra and miline, the focus of microSYST is the brilliant LED display with seven display colours and intelligent control electronics.

### The system





### **Modular, flexible and extendable**

The main features of the display systems of the migra and miline series are user-friendliness and flexibility. The internal bus system enables a modular system structure.

Therefore, with regard to the range of features, numerous additional components can be added. To be able to enlarge the features free programming interfaces are available which guarantee a direct adaption to your own requirements.



### **Intelligent control electronics**

The integrated control board is designed for independent calculations, reportings and the output of data and measured values.

The „logic“ of this display system can be factory-set or is programmable on site. Typical applications are, for example, programmable reactions to states and events with direct output to the display or to an interface.



### **Easy data transfer regarding field bus interfaces**

Our display systems can evaluate all data - individually according to your wishes.



### **Flexible adjustment of telegrams and configurable data processing**

The structure of the system is extremely user-friendly and intuitive, but nevertheless complex tasks can be solved easily by subsequent programming.

The system can be easily and quickly adjusted to existing telegrams or to telegrams which cannot be changed by the customer – this happens by the possibility of direct assignment, evaluation and implementation of individual commands and values in the relevant data telegrams.

## **legend**



microSYST  
configuration software



microSYST periphery bus

# miline - Line-oriented LED Displays

A modern LED display concept with a slim system structure – The main features of the new miline series are user-friendliness and flexibility. The line-based structure guarantees endless applications.

## Display and features

The system enables the combination of different elements and interfaces to meet your requirements perfectly. Your required range of features will be planned with our configuration software „MKS“.



### Visualisation of numbers, texts, values and variables

- Fixed, scrolling, flashing texts
- Animated / moving presentations
- Text attributes such as tabulators, colour switching and flashing of text parts
- Freely writable or with predefined variables, e. g. for text fields
- Unicode capable

### Visualisation of pictures and graphics

- BMP , PNG or JPEG files depending on the type
- Lines, rectangles, triangles, circles, bargraphs
- QR code

### Visualisation of stored texts and graphics

- Integrated memory for retrieving stored data
- Display of different changing images (texts, pictures or graphics)
- Layer by layer - flexible insertion of text layers and image layers

## The benefits of the miline series



### Optimised design and permanently ready for use

Due to the lightweight and compact construction you can install your miline display almost anywhere – and operate it permanently, 24 hours/7 days a week, also in the industrial sector!



### miline display - line by line – 7 display colours

Present any information on your LED display - line by line, with up to 7 display colours! You would like to display some more details? Then just put several miline displays one below the other.



### Microcontroller system upgradeable by additional components

In addition to Profibus or Profinet we offer standardised units for different field bus systems. Configure your system – with one software for all units!

## Interfaces and additional components

A-D  
converter

Digital I/O  
BCD

Ethernet  
TCP/IP or  
WLAN

Pulse input

PROFIBUS  
PROFINET

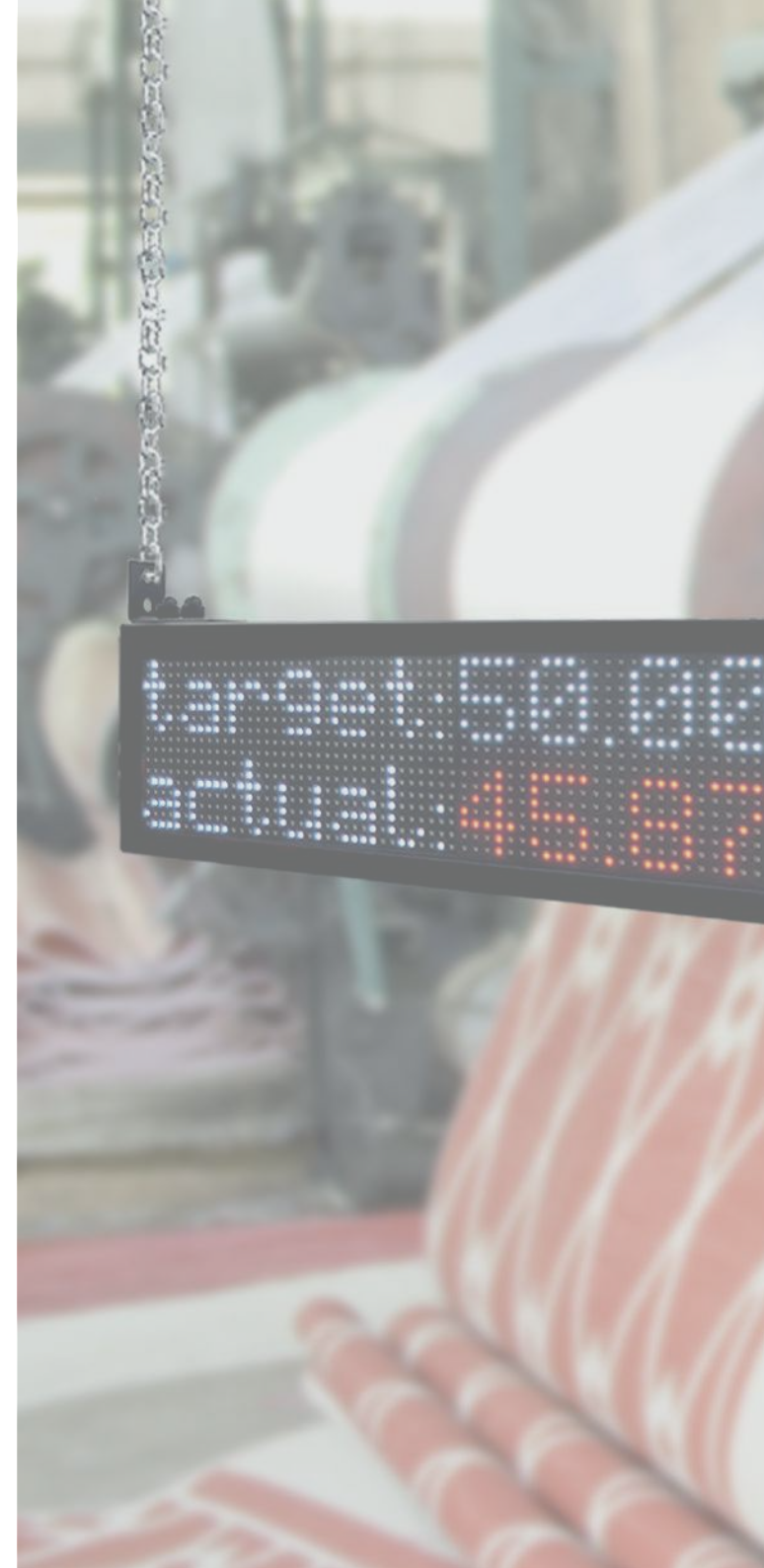
Real Time  
Clock

Serial  
RS232/RS485

Relay

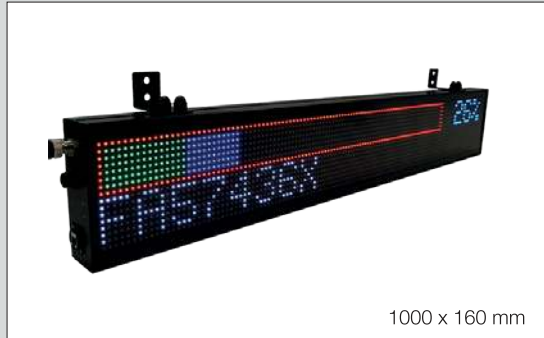
Sound  
module

other  
fieldbus





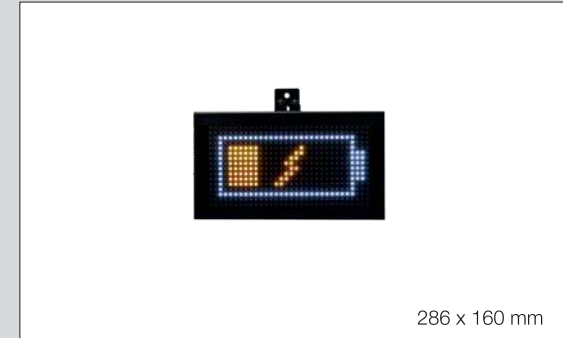
## Possible applications



Process progress with graphical representation



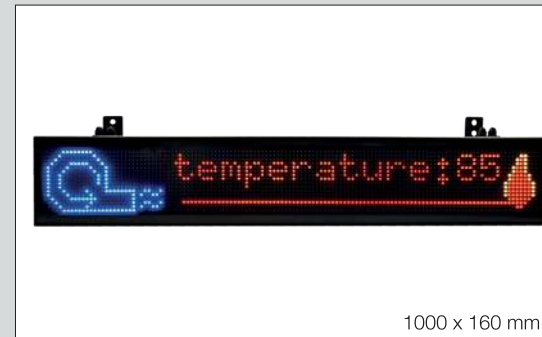
Display of accident-free days



Compact sizes for displaying short information, e. g. as pictogram



Visualisation of measured values



Combined display current states with plain text and graphics



Display of time, date and other general information (fixed or alternating)

## Characteristics

### Display

Seven-colour dot matrix display with high contrast and wide radiation angle for perfect readability at any distance

### Display size

Housing profile with a height of 160 mm, the length is modular extendable

### Character heights and display view

With a character height of 120 mm readable from up to 50 meters, Standard single-sided view

### Housing

Slim aluminium housing, designed for industrial use and free of maintenance due to fanless operation

### Installation

Flexible fixing elements for an easy wall or ceiling installation



## Technical data

### miline



- **Display** LED dot matrix display - standard resolution 64 x 16 pixel, 128 x 16 pixel or 128 x 32 pixel / other resolutions upon request - pixel pitch 4 mm or 8 mm
- **Display surface** approx. 520 x 130 mm, approx. 490 x 120 mm or approx. 980 x 120 mm
- **Character height** from 50 mm to 120 mm and more
- **Display colour** seven coloured (red, green, blue, yellow, magenta, cyan, white) or three coloured (red, green and mixed colour yellowish)
- **Applications** indoor (IP40)
- **Operating temperature** 0 ... +50 °C
- **Interfaces** Profibus-DP, Profinet I/O RT, Ethernet TCP/IP, WLAN, A-D-converter, digital inputs, pulse input, quartz clock, serial RS485 or RS232 (further data inputs upon request)

\* possible combinations on request

# migra - Graphics Compatible Large Format LED Displays

The new migra series combines both the latest display technology and an intelligent compact control system. The modular structure enables individual LED displays for your required application.

## Display and features

The system enables the combination of different elements and interfaces to meet your requirements perfectly. Your required range of features will be planned with our configuration software „MKS“.



### Visualisation of numbers, texts, values and variables

- Fixed, scrolling, flashing texts
- Animated / moving presentations
- Text attributes such as tabulators, colour switching and flashing of text parts
- Freely writable or with predefined variables, e. g. for text fields
- Unicode capable



### Visualisation of pictures and graphics

- BMP, PNG or JPEG files depending on the type
- Lines, rectangles, triangles, circles, bargraphs
- QR code



### Visualisation of stored texts and graphics

- Integrated memory for retrieving stored data
- Display of different changing images (texts, pictures or graphics)
- Layer by layer - flexible insertion of text layers and image layers

## The benefits of the migra series



### Suitable for industrial use indoor and outdoor - up to 7 display colours

The migra large format LED displays are especially designed for industrial use and have high protection classes. Whether indoors or outdoors - with your migra you will be able to display your information, with up to 7 display colours!



### A modular system structure for customised LED displays

Modular software platform, additional components and various LED modules – we produce our LED display according to your requirements - with a suitable software and the perfect size!



### Something special - additional equipment for your migra

Whether special housings, a fixed labelling on the display or an equipment for special applications - we offer the appropriate equipment for your display!

## Interfaces and additional components

A-D  
converter

Digital I/O  
BCD

Ethernet  
TCP/IP or  
WLAN

Pulse input

PROFIBUS  
PROFINET

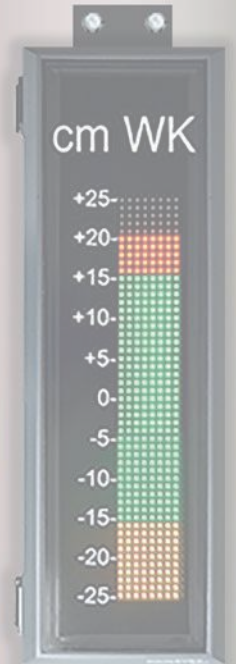
Real Time  
Clock

Serial  
RS232/RS485

Relay

Sound  
module

other  
fieldbuses



## Possible applications



1450 x 850 mm

Truck call-up for visually guided steering at the goods receipt and issue

	HE1074	K3831	FT450	KW012	HE473
Target	750	1400	350	500	1000
Actual	732	1267	362	476	1000
Delivery stat.	●	●	●	●	●
Productivity	●	●	●	●	●

2050 x 1050 mm

Flexible combination of text and symbols for quick status assessment



1080 x 340 mm

Communication in all languages due to unicode



620 x 570 mm

Visualisation of measured values



1080 x 200 mm

Visualisation of stored texts and graphics



380 x 180 mm per side

Multi-page display for use in assembly or assembly applications production islands



## Characteristics

### Display

Multi-colour LED dot matrix display  
up to 7 colours, high contrast and  
wide radiation angle for perfect  
readability

### Display size

Modular structure, wide range of  
dimensions possible

### Character heights and display view

With 250 mm character height  
readable from up to 100 meters  
and more, multi-sided view  
possible

### Housing

Robust aluminium housing,  
designed for industrial use and  
free of maintenance due to fanless  
operation

### Installation

Flexible fixing elements for wall or  
ceiling installation as well as flush  
or mast mounting



## Technical data

### migra



- **Display** LED dot matrix display - resolution per module  
P4 indoor 64 x 16 pixel -  
P8 indoor / outdoor per module 32 x 16 pixel -  
P12 and P16 outdoor per module 16 x 16 pixel -  
pixel pitch 4 mm, 8 mm, 12 mm or 16 mm
- **Display surface**  
per module with 4 mm pixel pitch 260 x 65 mm (indoor)  
per module with 8 mm pixel pitch 490 x 122 mm (indoor)  
per module with 8 mm pixel pitch 244 x 122 mm (indoor / outdoor)  
per module with 12 mm pixel pitch 187 x 187 mm (outdoor)  
per module with 16 mm pixel pitch 264 x 264 mm (outdoor)
- **Character height** from 30 mm (indoor)  
from 50 mm (outdoor)
- **Display colour** seven coloured (red, green, blue, yellow,  
magenta, cyan, white)  
three coloured (red, green and mixed colour yellowish)
- **Applications** indoor / outdoor (IP54, IP65)
- **Operating temperature** indoor 0 ... +50 °C  
outdoor -20 ... +50 °C  
optional -25 ... +50 °C (with heating)
- **Interfaces** Profibus-DP, Profinet I/O RT, Ethernet TCP/IP, WLAN,  
A-D converter, digital input, pulse input, quartz clock, serial,  
Modbus TCP, Modbus RTU, Ethernet IP, EtherCAT, CANopen,  
DeviceNet, InterBus, USB, BCD, DVI

## Special equipment



Stainless steel housing



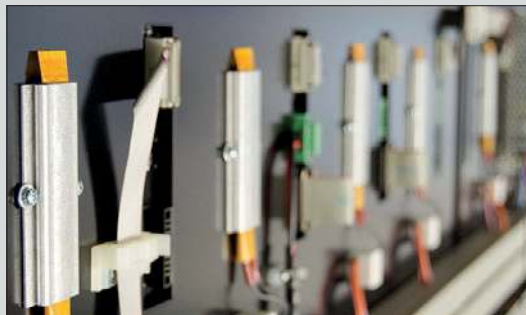
Customised fixed labelling



Real glass



Vibration protection



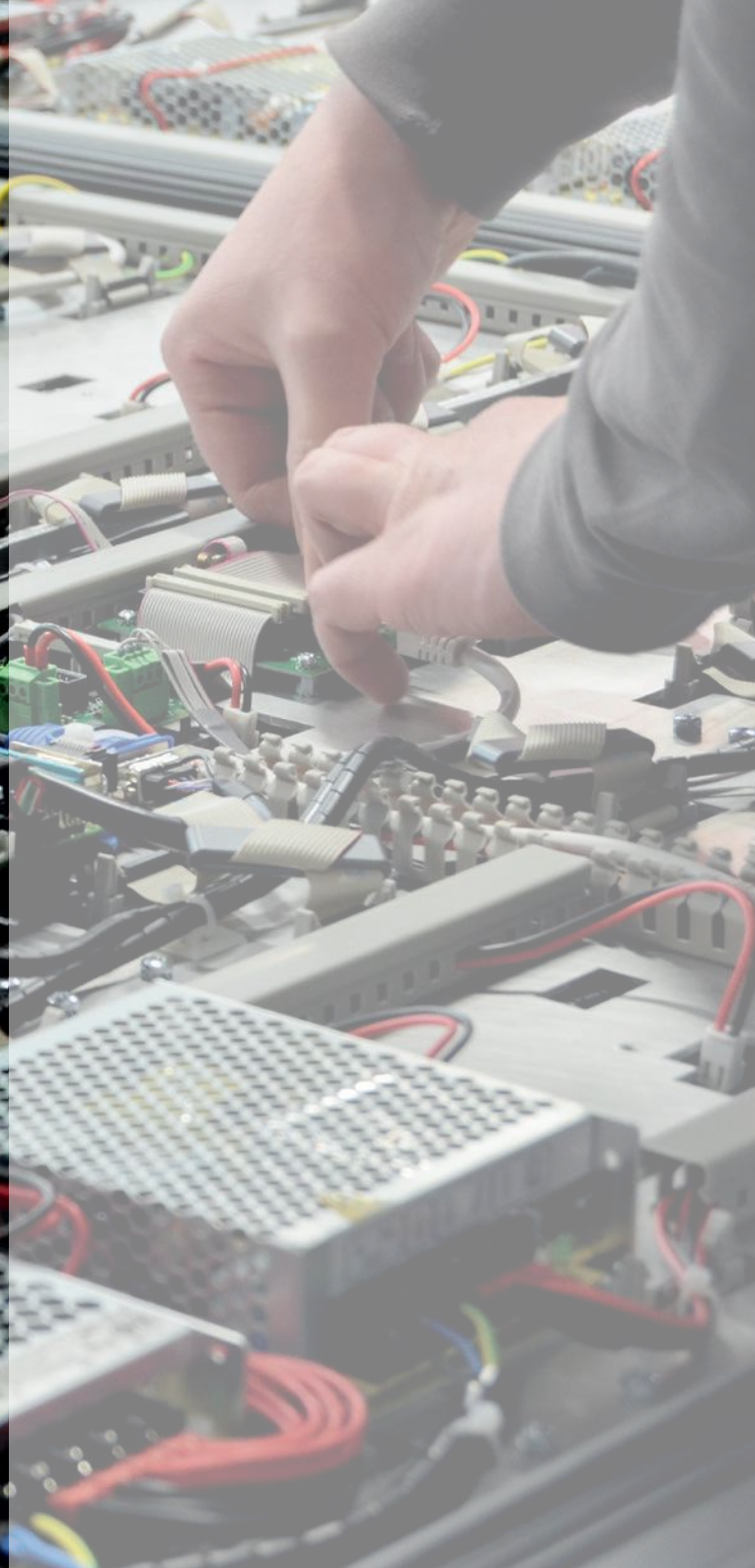
Equipment for extreme hot and cold  
environmental temperatures

**Display equipment according  
to customer's requirements!**

**We develop and produce your  
customised migra display  
according to your requirements!**

**Please contact us!  
[sales@microsynt.de](mailto:sales@microsynt.de)**







# TFT - Industry Monitors

Brilliant colours and a high resolution – TFT industry monitors are perfect for presenting a wide range of information on a large display in true colour.

## Display and features



### Visualisation of texts and images

- Freely configurable on the monitor surface
- Various image files possible (e.g. BMP, PNG or JPG files)



### Visualisation of changing information and videos

- Individual recording and order of contents
- Changing display of different image contents (texts, pictures, graphics or videos)

## The benefits of the TFT industry monitors



### A high-resolution LCD display with a high contrast

Whether texts, images, graphics or videos - use the versatile display options of your TFT monitor!



### Easy activation via PC

Activate your TFT monitor via your PC or via an integrated PC in the monitor - for the display of large illustrations!



### For industrial use and in different sizes

From IP20 to IP65, from a diagonal of 32" up to 86" - the TFT monitors are made for any possible application!

## Interfaces and additional components

HDMI

DVI

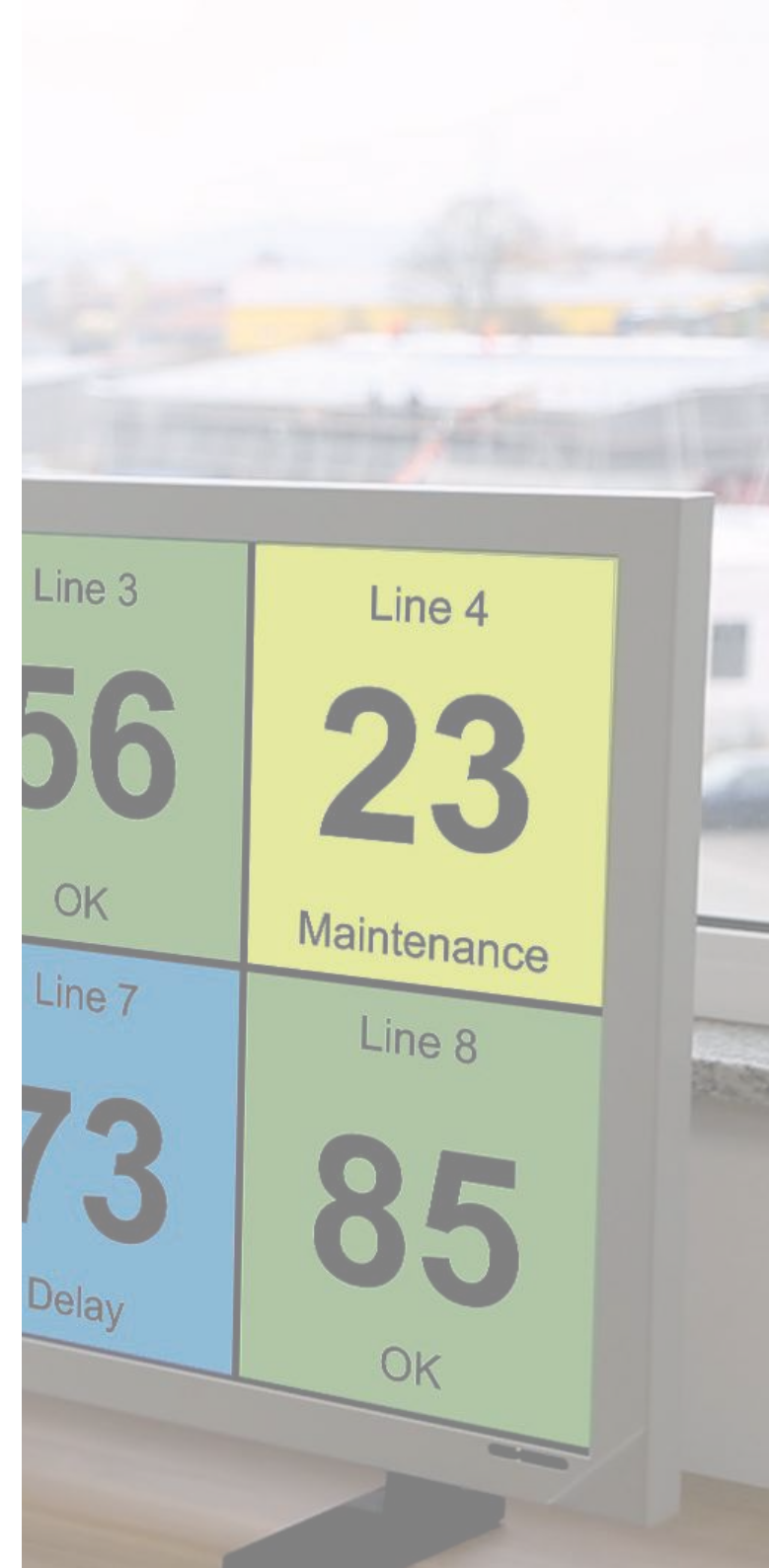
Displayport

Ethernet

WLAN


Serial  
(RS232)

integrated PC (USB,  
Ethernet TCP/IP)






# Possible applications



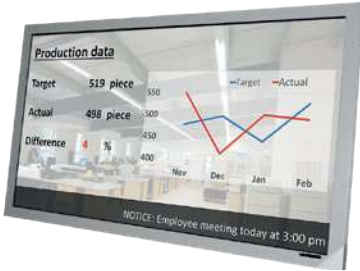
46"

Occupational safety display in the production area



42"

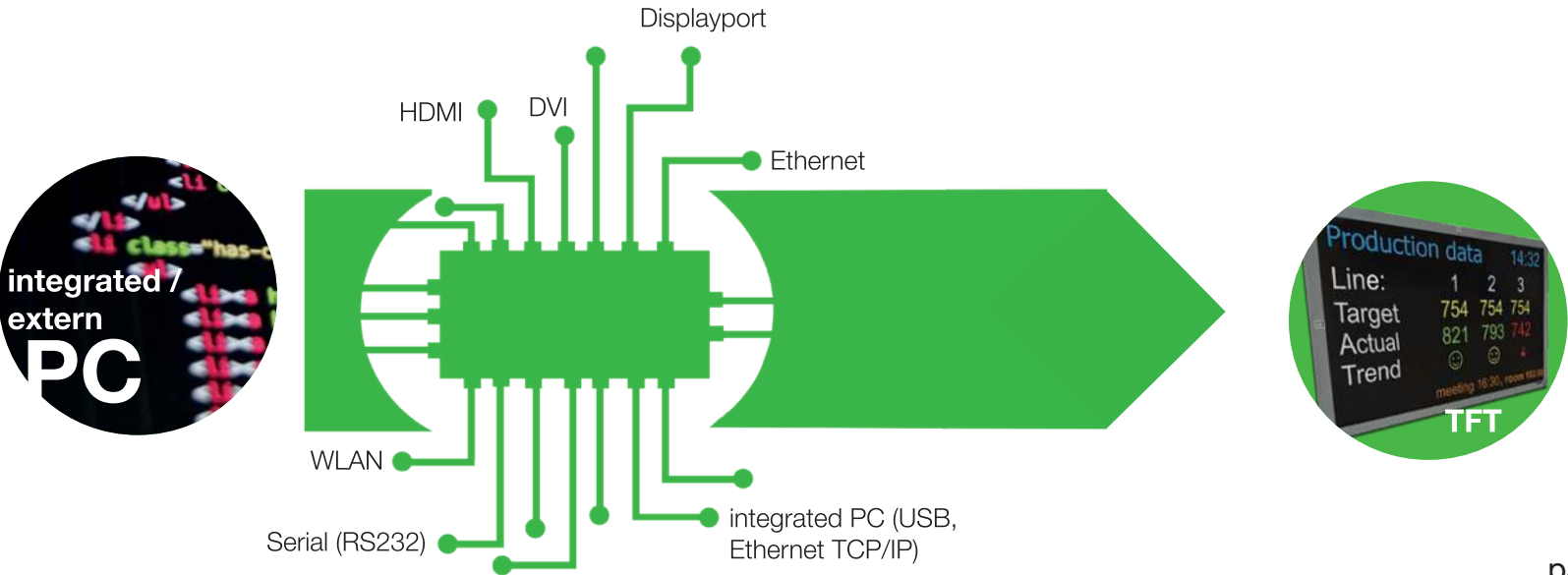
Call-up display in a vehicle registration office with information video



70"

Visualisation of target-actual data by using diagrams

# The system



## Characteristics

### Display

Full-colour, high-resolution LCD display

### Display size

Different monitor sizes up to a diagonal of 86"

### Character heights and view

Variable character heights,  
Standard single-sided display view

### Housing

Robust monitor housing

### Mounting

Easy wall or ceiling mounting



## Technical data

### TFT

Production line	14:32
Line	1 2 3
Target	754 754 754
Actual	821 793 742
Trend	😊 😊 ↓
Meeting 16:30, room 102.00	

- Display LCD monitor surface – resolution up to 4K
- Display surface depending on the diagonal up to 86"
- Character height variable
- Display colour full-colour
- Applications indoor / outdoor depending on the model (IP20, IP54, IP65)
- Operating temperature Standard 0 ... +45 °C  
optional -30 ... +50 °C
- Interfaces WLAN, DVI, HDMI, displayport, serial (RS232), integrated PC (USB, Ethernet TCP/IP)

# mipan - Numeric Panel-Mount LED displays

The panel-mount LED displays of the „mipan“ series are especially designed for the industrial use. Depending on the model, digits, measured values and codes can be displayed compactly and purposefully. The displays are equipped with a high-contrast display with red LEDs.

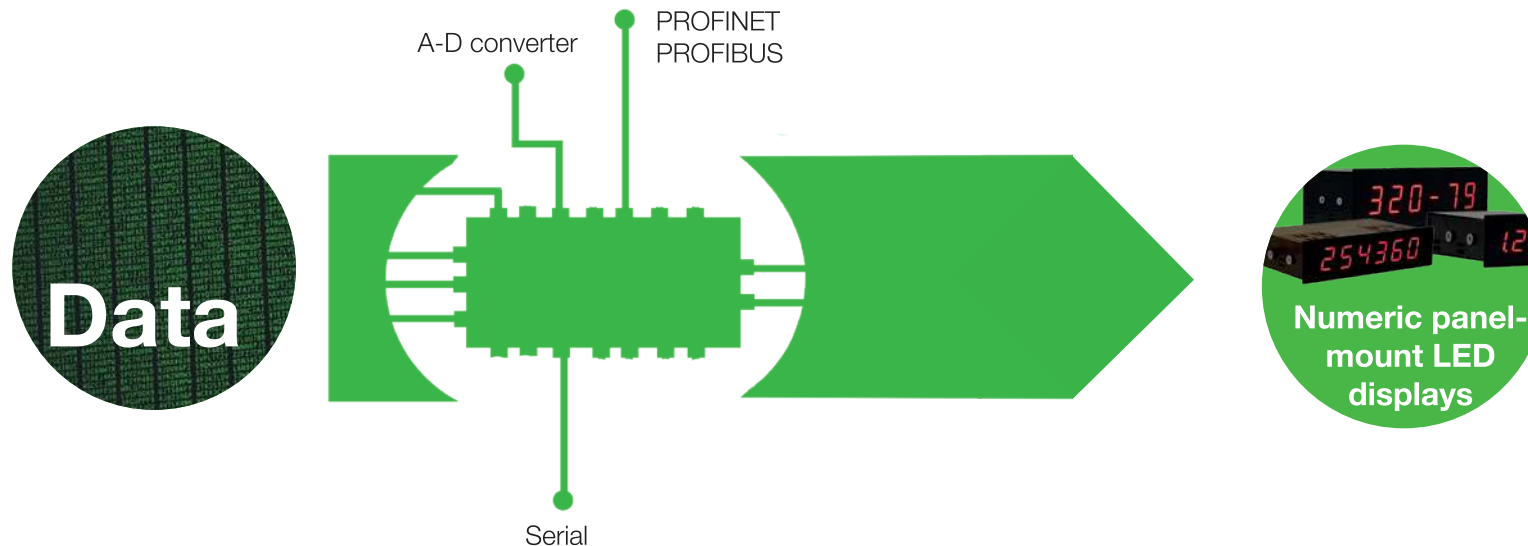
## Display and features



### Visualisation of numbers, key figures and codes

- Fixed, flashing texts
- Display brightness can be controlled via dialogue

## The system



## The benefits of the mipan series



### Compact panel-mount LED display with a luminous numeric LED display

A variety of information can be displayed on the compact display, such as numbers and key figures or any codes - luminously and with high contrast with red LEDs.



### Easy system connection via various interfaces

Depending on the model, the mipan models are equipped with an A-D converter, a serial interface or fieldbus interface - for an easy activation by a current / voltage value or by a telegram.



### For industrial use and in various sizes

The front side of the mipan panel-mount LED displays is classified according to IP65 – the displays are dust- and splash-proofed!

## Interfaces and additional components

A-D  
converter

Serial

PROFIBUS

PROFINET



## Possible applications



144 x 48 mm

Display of results (in total, average, per day)



144 x 48 mm

Display of the system status  
(error, error code)



96 x 24 mm

Visualisation of measured values



## Characteristics

### Display

Single-colour LED display with a red display colour

### Display size

Various DIN housing sizes depending on the model

### Character heights and display view

Various character heights depending on the model

### Housing

Robust DIN panel-mount housing

### Mounting

Space-saving flush mounting



## Technical data

### mipan

- **Display** LED 7-segment
- **Characters** 3 to 6 digits depending on the model;  
character height variable depending on the model (13, 20 mm)
- **Display colour** red
- **Application** indoor (front panel IP65)
- **Interfaces** A-D converter, serial, Profibus, Profinet
- **Housing** minimum 96 x 24 x 60 mm - maximum 144 x 48 x 60 mm

# mitex - Alphanumeric Panel-Mount Displays

As well as the numeric models, the alphanumeric panel-mount displays of the “mitex” series are especially designed for industrial use. Texts and any information can be displayed compactly and purposefully. In addition to the LED technology also VFC and TFT displays are used.

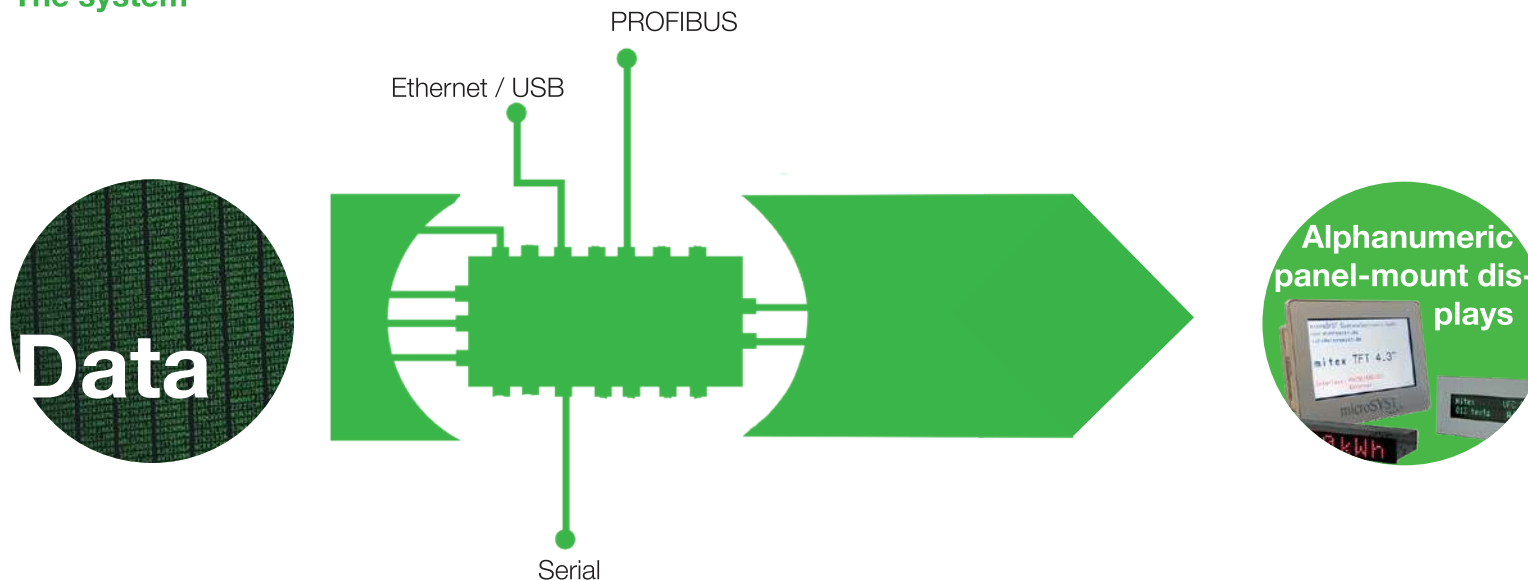
## Display and features



### Visualisation of texts and information

- Fixed, flashing texts
- Display brightness can be controlled via dialogue

## The system



## The benefits of the mitex series



### Compact panel-mount display with a luminous alphanumeric display

Much information can be displayed in a small space - whether texts, codes, messages or further information.



### Easy system connection via different interfaces

Depending on the model, the mitex displays are equipped with a serial interface or fieldbus interface or are activated via Ethernet or USB.



### For industrial use and in various sizes

The front side of the mitex panel-mount displays is classified according to IP65 – the displays are dust- and splash-proofed!

## Interfaces and additional components

Ethernet

PROFIBUS

Serial

USB



## Possible applications



216 x 96 mm / 264 x 48 mm

Display of the system status as  
plain text information



124,9 x 90,4 mm

Operator guidance for control cabinets



168 x 24 mm / 264 x 48 mm

Display of measured values

## Characteristics

### Display

Various display colours  
depending on the model

### Display size

Various DIN housing sizes  
depending on the model

### Character heights and display view

Various character heights depending on  
the model

### Housing

Robust DIN panel-mount housing

### Mounting

Space-saving flush mounting



## Technical data

mitex



- **Display** alphanumeric LED dot matrix display
- **Characters** 17 mm, 30 mm, 8 digits, one line
- **Display colour** red
- **Application** indoor (front Panel IP65)
- **Interfaces** serial, Profibus
- **Housing** minimum 168 x 24 x 62 mm, maximum 264 x 48 x 40 mm



- **Display** TFT-Display
- **Characters** variable character height (e.g. 1,4 mm up to 6,4 mm), 5 up to 27 lines per character height
- **Display colour** up to 7 display colours (blue, green, light blue, red, lila, yellow, white)
- **Application** indoor (front Panel IP65)
- **Interfaces** serial, Ethernet, USB
- **Housing** 124,9 x 90,4 x 38,8 mm



- **Display** alphanumeric VFC dot matrix display
- **Characters** 5,05 mm, 10,5 mm, 20 digits, 40 digits, two lines
- **Display colour** green
- **Application** indoor (front Panel IP65)
- **Interfaces** serial, Profibus
- **Housing** minimum 216 x 96 x 22 mm, maximum 264 x 48 x 40 mm





# Display systems by microSYST

## successstories

### miline - Customer-specific requirements

- Reinstallation of displays to warn against e.g. radioactivity
- Visualisation of variable **warnings in text form** with the help of **graphic symbols with up to seven colours**
- Installation of the displays above test room entrance doors for a good visibility from long distances



### miline - Implementation according to customer's requirements

- Planning, development, production, installation and commissioning of the warning displays at the customer's site
- Design and drawing of **symbols according to customer's requirements**
- Large format LED display „miline“ with **luminous, seven-colour LEDs** for indoor use
- Display of graphics and text information
- Connection to the already existing network infrastructure of the customer



### miline - Benefits for the customer

- Display of different warnings for an **easy distinction of risks**
- Display of the current date with time should there be no warning
- **High comprehensibility** due to pictograms





### **migra** - Customer-specific requirements

- System with 17 machines for the production of injection-moulded parts
- Visualisation of up to 17 fault messages in case of machine breakdowns
- Standard **display of production data**, time / date and general text messages and information in a trouble-free operation
- Reading distance of maximum 20 meters
- User-friendly activation for an easy input of message texts and an automatic assignment of system faults



### **migra** - Implementation according to customer's requirements

- Project planning, display construction and production as well as programming of the software
- Usage of a large **seven-colour LED display „migra“** for the colourful display of priorities and any other information for employees
- System integration of the data transfer into already existing infrastructures (central PLC of the customer)
- Factory-set **project planning of the production- and system-specific data** as well as of all relevant fault messages for an easy commissioning and operation by the user



### **migra** - Benefits for the customer

- Higher machine availability due to **reduced downtimes**
- Central and clear display of any production-relevant information
- **Minimisation of downtimes** in downstream production processes
- On schedule deliveries



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management system  
according to DIN EN ISO 9001



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