ID READERS
FIXED-MOUNTED AND HANDHELD

FOR INDUSTRIAL AUTOMATION

di-soric

IDENTIFICATION SOLUTIONS
FROM DI-SORIC

There is an increasing demand for the use of identification systems in modern automatic conveyor and production systems.

The essential characteristic of new production concepts is linking the information flow with the material flow. This enables the identification of the conveyor units at any time and at any location, ensuring versatile control at each production step.

A prerequisite is the reliable recognition of all common 1D and 2D codes by identification systems, such as our high-performance fixed-mounted and handheld ID readers.

1D **POSTAL**

Code 39

C O D E   3 9

Code 128

Code 128

Code 2 of 5 Interleaved

01   23   45

Code UPC

1   23456   78901   2

EAN code

1   2 3 4 5 6 7   8 9 0 1 2 8

1D or barcodes

- Vertical arrangement of information
- Lines/Spaces in between are measured and converted into the information contained therein
- Extra wide distribution of codes
- 'Print growth' is very critical for readability
- A lack of correction options makes checks difficult
- Can be read using camera- or laser-based methods

2D **PDF**

PDF 417

PDF 417

Aztec

QR code

2D or stacked barcodes

Barcode

- Error correction to stabilize the readability in case of damage
- Can be read using camera- or laser-based methods
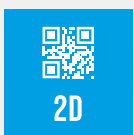- Requires a very high print quality

Matrix code

- Standard from Nippon Denso
- 4 selectable levels of error correction
- Makes reconstruction possible for 7 % - 30 % damage

2D **DPM**

Data Matrix Code – DPM

- The standard for product tracing
- DPM: With Direct Part Marking, the code is added directly to the product without a label, e.g. needle-embossed, etched or laser-engraved – which also increases counterfeit protection.

FIXED-MOUNTED ID READERS
ID-600

For advanced code-reading tasks in smart production

Our ID-600 offers outstanding versatility for the highest degree of productivity in versatile production systems. Due to easy lens changing and integrated high-performance illumination that is switchable between 2 colors, the ID-600 creates excellent images with respect to distance, field of view and resolution – under changing requirements.

ID-600

Accessories: S-mount interchangeable lenses

HANDHELD ID READERS
ID-10, ID-80 AND ID-100

Simple operation and reliable, fast data acquisition

OUR VERSATILE CAMERA-BASED
ID-600 FIXED-MOUNTED

Smart production ready

The ID-600 impresses with its powerful, upgradeable software, clever and robust illumination concept, its M12 interchangeable lenses, and extensive optics accessories.

Thanks to high-performance code-reading tools and the quickly configurable nVision-i software, optimal performance with smooth startup and changing conditions is guaranteed.

Comprehensive focal lengths through M12 interchangeable lenses

for satisfying all common application requirements in industrial code reading

Integrated high power LED illumination in red and white

Illumination can be switched in the software for optimal startup at a high speed and at a large working distance.

User-friendly, intuitive software and high-performance ID code reader tools

ensure simple and seamless integration

Image correction and calibration

for improving the image quality

Reliable and fast

The ID reader for all common 1D and 2D code types and easily recognizable, directly marked DPM codes

Upgrade function

License upgrade ID-Pro for the recognition of hard-to-read directly marked DPM codes and code grading, based on ISO15415 for 2D codes and OCR for localizing, recognizing and counting characters

Customizing

The software can be customized as needed

Supports industry protocols

Digital I/O, TCP/IP, Profinet, Ethernet/IP, HTTP, FTP/SFTP and ReST-API

Robust, compact housing with IP67

for use in factory environments with active washing without attaching additional protective equipment

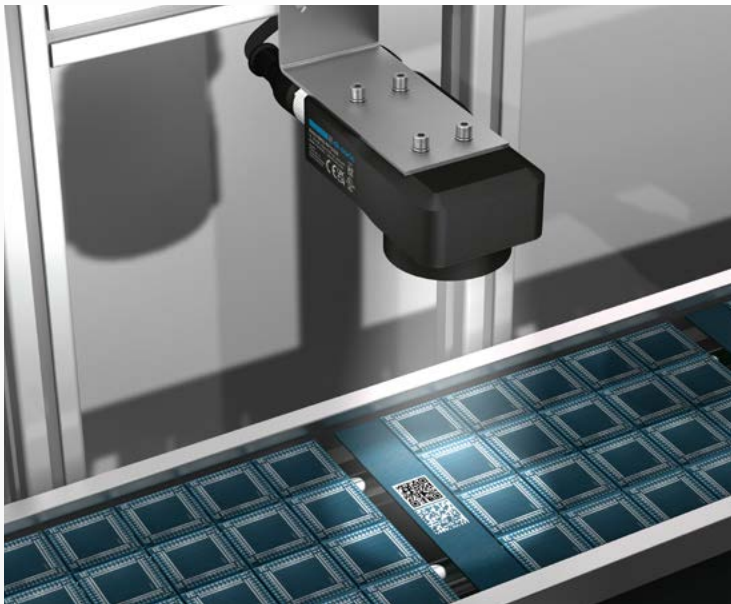PROFI NET INDUSTRIAL ETHERNET

EtherNet/IP

1D   2D   PDF   POSTAL   DPM

POWERED BY CORTEX DECODER®

IP67

ID-600 FIXED-MOUNTED
APPLICATIONS

Our ID-600 units rise to the challenge of even ambitious ambient conditions and code-reading tasks and thus can be used in a variety of industries.

Comprehensive code reading tools ensure that all common 1D and 2D codes are read in, as well as DPM codes and that the determined data and created images are transmitted via various communication interfaces.

Quality inspection and capture of Data Matrix and QR codes in the feed

An ID-600 captures direct-marked Data Matrix and QR codes simultaneously. For precise tracking in the part feed, the codes are linked directly in the code reader via the Logic tool. This allows a faulty batch to be quickly identified in the case of NOK components.
For quality assurance, the images are then transferred to an FTP server.

ID-600 fixed-mounted ID reader
ID600-BM38-EP15/300PRO

Quality inspection and capture of the barcode in the secondary packaging

An ID-600 performs a quality inspection of barcodes on products before packing them into larger containers. This ensures that only products with perfectly readable barcodes are packaged together. Due to the versatility of the ID-600, this type of quality inspection can also be retrofitted in existing packaging lines.

ID-600 fixed-mounted ID reader
ID600-BM28-EP15/300

Applications

- When tracking components, where also directly marked codes are used and not only the decoded data but also the created images have to be transferred (via FTP/SFTP) for quality control of the codes

- In areas where versatility and configurability are required for fast changeovers

Code reading

- in part feeding, assembly and handling technology, secondary packaging etc.

- of very small codes / codes with little contrast

- under demanding lighting conditions

- in plant environments with frequent wash cycles

ID-600
nVISION-i SOFTWARE

Save time

Not just because of the interface, which is clear, intuitive and simple to operate, but also because of the high-performance tools, which are consistently optimized at the highest quality and with the highest level of performance.
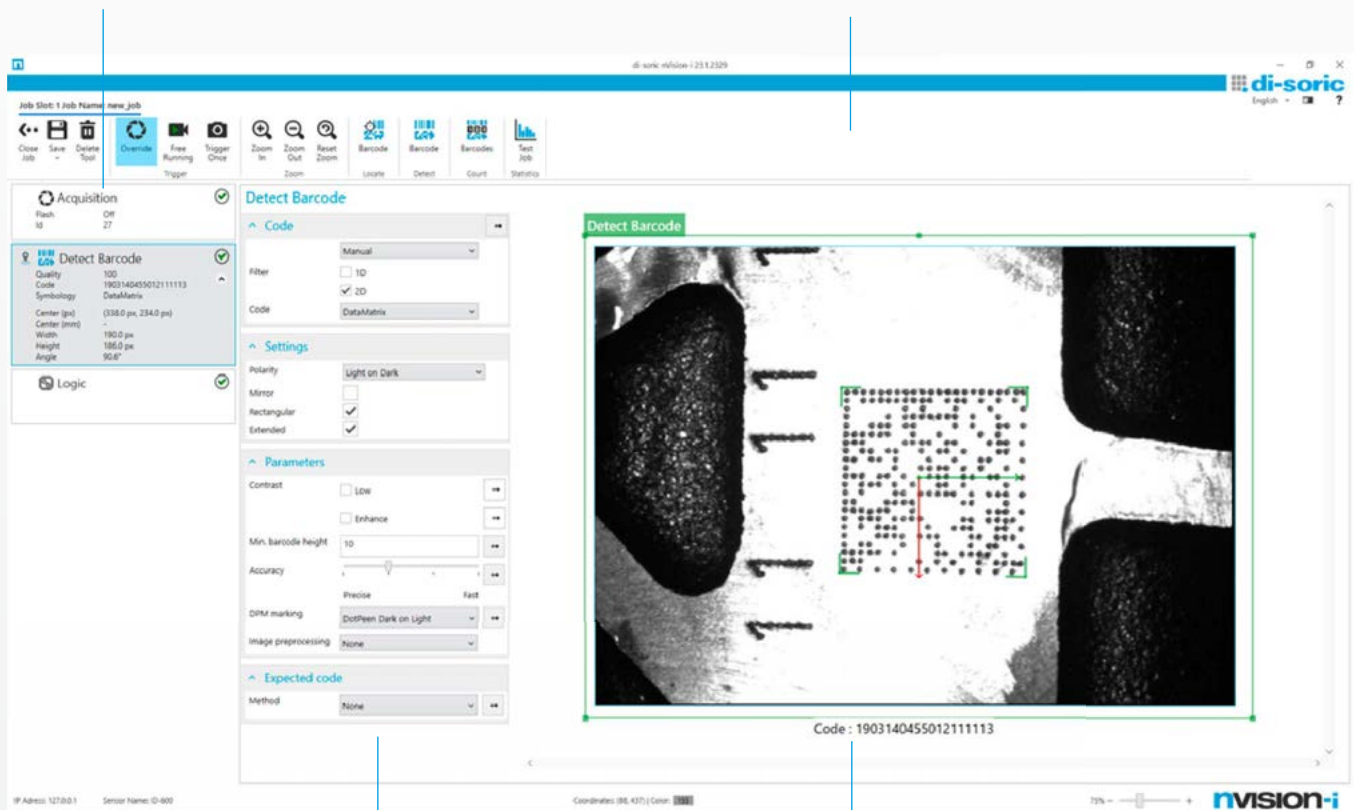
The visualization of the pipeline and linking of individual tasks in the Logic tool make the greatest degree of versatility and high speed in the realization of the application possible.

Pipeline & status checks

- Inspection tools can be inserted here and moved via drag & drop
- Measured values and check results/status are shown here

Navigation bar & inspection tools

- Intuitive and user-friendly navigation menu
- Contextual help can be displayed as needed
- Menu guidance can be toggled between 7 languages (German, English, French, Italian, Spanish, Chinese, and Korean)

Configuration

- Parameters for search criteria can be set simply and directly
- Threshold values for the evaluation criteria can be entered easily

Display & drawing tools

- Image viewing for the control and analysis during operation
- Context-sensitive description of the tools on the right side to ensure optimal tool use with their complete functionality

Integrated image optimization

With 2 clicks, distortions and shading at the edge of the image can be easily eliminated by calibration via nVision-i.

ID readers ID-600 therefore have the ability to reliably perform all detections across the entire field of view.
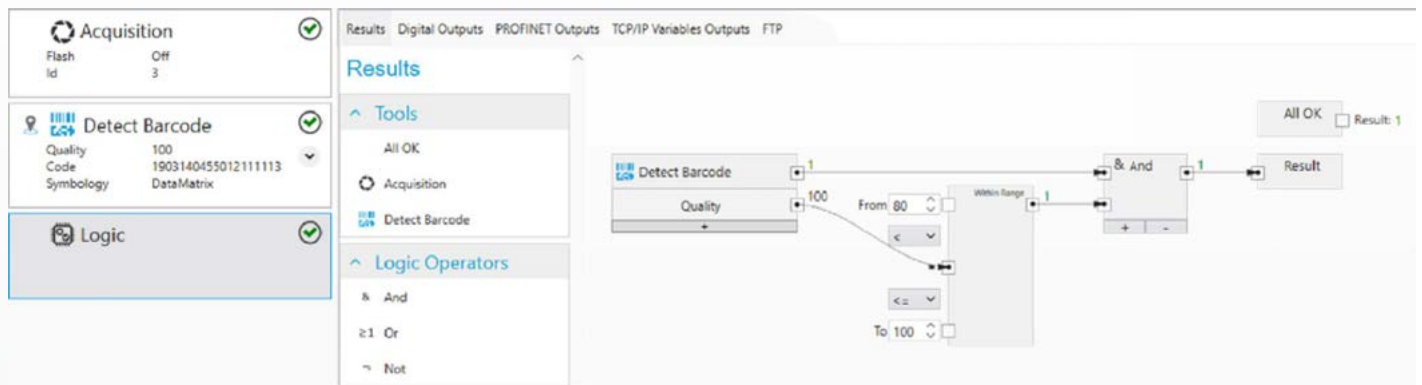
nVISION-i SOFTWARE
THE LOGIC TOOL

High performance and versatility

The versatility to link various tool results enables the ID reader to process various types
without switching between jobs – for example, when the production process runs with multiple varieties.

The great versatility is another advantage.
Profinet communication can be adapted to existing standard communication modules.

Short orientation period, no training required

The graphics-oriented Logic tool based on a function plan (FUP), whereby a clear display is possible, even in more complex
functions. This, in turn, ensures that the implementation of the behavior of inputs and outputs is simple and highly transparent.

This eliminates the need for training, since the procedure is already familiar from daily use of PLC programming.

LIVE VIEW: WEB HMI

Visualization of test results in the web browser

The easy-to-understand display of test results in the web browser for monitoring processes, even for untrained employees,
has become indispensable.

The web interface of our ID-600 impresses with a complete overview of the tools with measured values and frames for the
tools that can be activated for display via a checkbox with clear results directly in the image:

Green frame and ⊘: OK

Red frame and ⊗: Not OK

The history below the live image enables a direct comparison of test results.
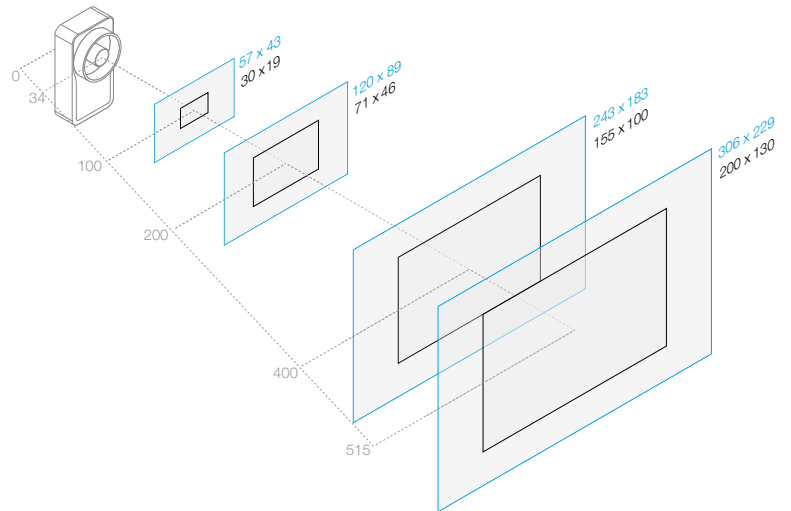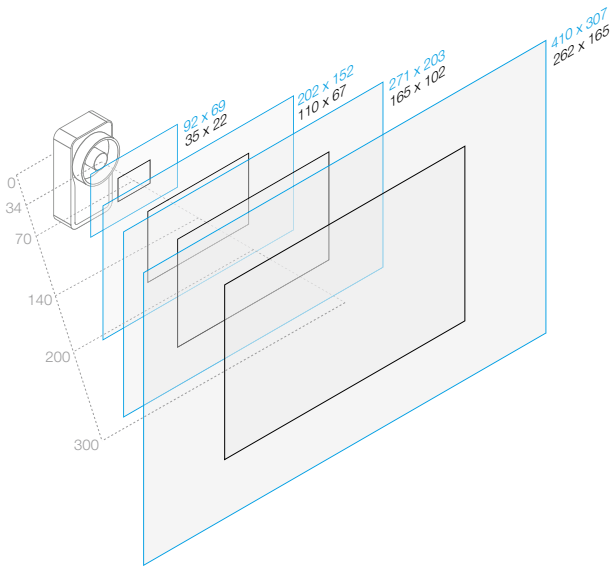
ID-600
FIELDS OF VIEW

High versatility of the variants ID600-BM2X and ID600-BM3X with 4 different focal lengths.

The following table shows the representation of fields of view with the available lenses at various working distances for the ID-600 with 736 x 480 pixels (0.3 MP) and 1440 x 1080 pixels (1.58 MP).

Definition of working distance: Back edge sensor to worktop. Depth of sensor: 34 mm.

Field of view, 3.6 mm lens [1]

92 x 69 / 35 x 22
202 x 152 / 110 x 67
271 x 203 / 165 x 102
410 x 307 / 262 x 165

0
34
70
140
200
300

Field of view, 8 mm lens

57 x 43 / 30 x 19
120 x 89 / 71 x 46
243 x 183 / 155 x 100
306 x 229 / 200 x 130

0
34
100
200
400
515

1.58 MP, 1440 x 1080 pixels
0.3 MP, 736 x 480 pixels
Working distance -----
All specifications in mm

[1] At 3.6 mm, FOV limited at 1.58 MP if lens cover is used. No IP67 protection with complete FOV.

Field of view, 16 mm lens

26 x 20 / 17 x 11
27 x 43 / 38 x 25
119 x 89 / 79 x 52
150 x 113 / 103 x 67

0
34
100
200
400
515

Field of view, 25 mm lens [2]

25 x 19 / 12 x 8
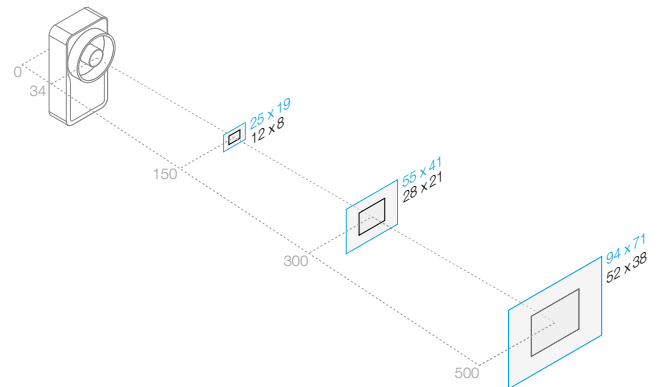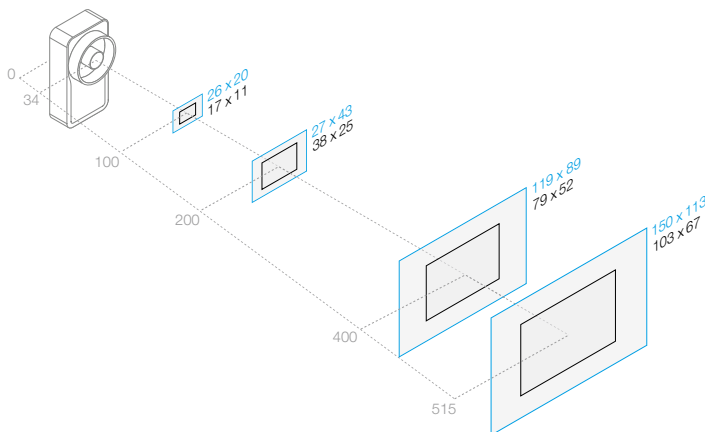55 x 41 / 28 x 21
94 x 71 / 52 x 38

0
34
150
300
500

1.58 MP, 1440 x 1080 pixels
0.3 MP, 736 x 480 pixels
Working distance -----
All specifications in mm

[2] Below 250 mm, the lens cover can no longer be used and thus no longer ensures IP67 protection.

ID-600
TECHNICAL DATA

Tools:	ID600-BM28-EP 15/300	ID600-BM28-EP 15/300PRO	ID600-BM38-EP 15/300	ID600-BM38-EP 15/300PRO	ID600-BM38-EP 15/300OCR
· Reading 1D code	■	■	■	■	■
· Reading 2D code	■	■	■	■	■
· Reading stacked codes	■	■	■	■	■
· Reading DPM code	■	■	■	■	■
· Read hard-to-recognize DPM codes		■		■	
· Code grading based on ISO 15415		■		■	
· OCR (from nVision-i Release 24.2)					■
Upgrade options:					
· ID-Pro: · Read hard-to-recognize DPM codes · Code grading based on ISO 15415	■		■		■
· OCR (from nVision-i Release 24.2)			■	■	
· Customization of the software to requirements / corporate design	■	■	■	■	■

Resolution	736 (H) x 480 (V)	1456 (H) x 1088 (V)
Pixel size (µm)	3,45 x 3,45	3,45 x 3,45
Shutter	global	global
Max. image frequency (fps)	30	30

Scope of delivery	ID-600 fixed-mounted ID reader, O-S1-S-080-40 lens, CS60-Window lens cover
Housing dimensions H / W / D	85 / 45 / 34 mm
Service voltage	18…30 VDC
Working distance	1 ID reader with S-mount – 4 lenses: 50 – 1500 mm
Focal length	Variable – S-Mount: 3.6, 8, 16, 25 mm
Internal lighting	Switchable integrated illumination: High Power red, High Power white
Storage / number of jobs	16 GB / to 255
Focusing	Variable focus with aperture 4 and 8
Interfaces & protocols	Digital I/O, TCP/IP, Profinet, Ethernet/IP (from nVision-i Release 24.1)
Digital inputs / outputs	2 + 1 external trigger / 4 + 1 ready signal
Image storage	Via FTP/SFTP / manually in the software

Supported codes

1D codes (barcodes)	Code 39 Code 93 Code 128 Codebar	GS1 Databar RSS 14 GS1 Databar Limited GS1 Databar Expanded Pharmacode	UPC A UPC E EAN 8 EAN 13	Code 2of5 Interleaved Code 2of5 Matrix Code 2of5 Straight Code 2of5 HongKong Code 2of5 NEC Code 2of5 IATA
2D codes	Aztec Code Data Matrix Dot Code		QR 2005 QR Micro QR Model 1	
Stacked codes	GS1 Databar RSS 14 Stacked GS1 Databar Expanded Stacked		PDF 417 PDF 417 Micro	

ACCESSORIES FOR ID READERS
ID-600

Customized accessories

In the CS-Z accessory series, we offer the appropriate functional extensions for our ID-600 ID readers and CS-60 Vision Sensors. These include filters, lens protective caps, Y cables and mounts.

Optical accessories

Electrical accessories

Mechanical accessories

SOLUTIONS.
CLEVER. PRACTICAL.

Product solutions from di-soric

For industrial image processing and identification, in addition to the ID-600 fixed-mounted ID readers
and the CS -60 Vision Sensors, we also have the appropriate lighting systems for a wide range
 of application solutions in our product range.

Much more than just reading codes:

VISION SENSOR
CS-60

Same design – even more power

Test our CS-60 Vision Sensor free of charge
for 28 days: www.di-soric.com/cs-60

Lighting for industrial
image processing and identification

There are applications that have special requirements for the illumination of objects.

di-soric has an extensive portfolio of lights for industrial image processing and identification
that satisfy these requirements.

Further information can be found in the brochure "Vision.ID Lights" and on www.di-soric.com

HANDHELD ID READERS
ID-10, ID-80 AND ID-100

Easy to operate and fast, reliable data recording

In a production environment, the ID handheld systems from di-soric are the first choice - from the lightweight to the industrial DPM reader for codes of all kinds.

These automatic scanners read and decode 1D and 2D codes in all less challenging process environments for an accelerated, stable process.

ID-100

ID-80

ID-10

The advantages of our identification solutions

Enables you to identify all codes quickly and easily – near and far, large and small, damaged
and dirty codes on challenging, shiny or transparent surfaces, even on the screens of mobile devices –
with superior accuracy, reliability and speed. Mobile and stationary.

CortexDecoder

Our ID reader is based on CortexDecoder software, which offers the most advanced decoding algorithms in the industry, thus making it the fastest, most accurate and most innovative barcode scanning software on the market.
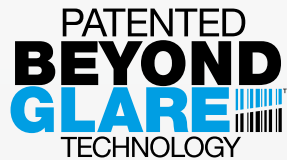

Dual Field Optics – Twice as good

Scanning using dual field optics ensures that your work process is not interrupted by frequent adjustments to the scanning position. This technology offers two lens systems with overlapping scanning fields - one is configured for small barcodes and one is configured for large barcodes. The near and far scanning of large or small codes enables you to scan everything that you need.

Beyond Glare – Shiny objects are not a problem

The decoding process is improved via the high contrast display of barcodes - the patented Beyond Glare technology ensures fast processes and high accuracy worldwide.

Near Zero Miss Accuracy

Our Near Zero Miss reader outperforms the competition - not just in tests, but also in practice - with its industry-leading scanning accuracy: Only 1 of 2000 barcodes is read incorrectly. In a special practical test using creased plastic and reflecting barcodes that move by the ID reader at a speed of 15 cm per second, the results were more than acceptable.

JavaScript – Logic and flexibility

The code reader based on a JavaScript platform can be quickly programmed with logic to prepare and adapt it for integration into any industry solution.

```
rules_onDecode = function(decode)
{
     if(decode.data.match(/^01[0-9]{2}88{0-9}{10}$/))
//di-soric parsing
   {
     decode.data = decode.data.substring(4,-2);
   }
   return decode;
}
```

OUR FLEXIBLE
ID-10 COMPACT

The ID-10 is a cabled barcode reader with very compact dimensions and a high level of reading performance.

The dual field optics enable the user to quickly scan both wide 1D barcodes and small, dense 2D barcodes. Users can use the ID-10 as a handheld or mounted in a fixed manner and choose for a high degree of efficiency between continuous scanning or moving detection.

For fixed mounting, the ID-10 has threaded brass inserts for simple installation. With its high speed, omnidirectional code reading, extremely low energy consumption and manual or automatic resolution, the ID-10 is the ideal barcode reader for environments with a high degree of utilization, and distinguishes itself through high decoding performance and a very attractive price/performance ratio.

IP54

- **Fast, reliable code reading**
  Reliable omnidirectional detection of 1D codes, 2D codes and postal barcodes [1]

- **Flexible application**
  Manual or automatic trigger

- **Stationary application as a fixed-mount:**
  Minimal space requirement due to compact dimensions and extremely low power consumption

- **Mobile application as a handheld:**
  Fatigue-free work through low weight and easy-to-handle format

- **Clear reading feedback**
  via LED and audible tone

- **Flexible data processing**
  Data processing and parsing with JavaScript

1D	2D	PDF	POSTAL

Applications

Stationary code reading in production lines with continual scanning or motion detection

Code reading

- In production lines
- In goods receiving
- For warehousing
- For commissioning
- In outgoing goods
- During assembly

OUR LIGHTWEIGHT OPTION
ID-80 STANDARD

The ID-80 is a lightweight and compact barcode reader which quickly decodes 1D and 2D codes.

Thanks to its ergonomic design, it can be operated comfortably over long periods of time. This feature and its long service life make it a reliable investment.

The easy-to-operate code reader exceeds one-line laser scanners and linear imagers with complete, omnidirectional barcode reading. In combination with its multifaceted programmability, the ID-80 transfers coded data quickly and reliably into any enterprise solution.

- **Fast, reliable code reading**
  Omnidirectional detection of 1D codes and 2D codes [1]

- **Flexible applications**
  Mobile or stationary with manual or automatic trigger

- **Fatigue-free work**
  due to low weight and an ergonomic design

- **Clear reading feedback**
  via LED and audible tone

IP54

| 1D | 2D | PDF |

Applications

Anywhere 1D and 2D codes need to be read under challenging conditions

Code reading

- In goods receiving
- For warehousing
- For commissioning
- In outgoing goods
- During assembly

OUR INDUSTRIAL-SIZED VERSION
ID-100 ADVANCED

The ID-100 is an industrial-quality DPM reader for all types of codes.

The device effortlessly reads lasered, imprinted, dotted, low-contrast and postal codes and decodes dense and extremely small barcodes. Equipped with several light fields, the ID-100 automatically selects the field that is most efficient in reading the respective code type. This leads to quick data detection of surfaces that are difficult to read, even in case of damaged and contaminated codes.

The ID-100 is ideally suited for component tracking on assembly lines and other manufacturing applications.

IP54

- **Fast and reliable decoding**
  using dual zone optics despite fluctuating working distances

- **Excellent DPM code decoding**
  Automatic adjustment of the illumination to the type, quality and size of the DPM codes

- **Able to read every kind of 1D and 2D codes[1]**
  as well as colored and low-contrast as well as damaged ones

- **Fatigue-free work**
  due to low weight and an ergonomic design

- **Unique read feedback**
  by means of LED, audible sound, and vibration

- **Flexible data processing**
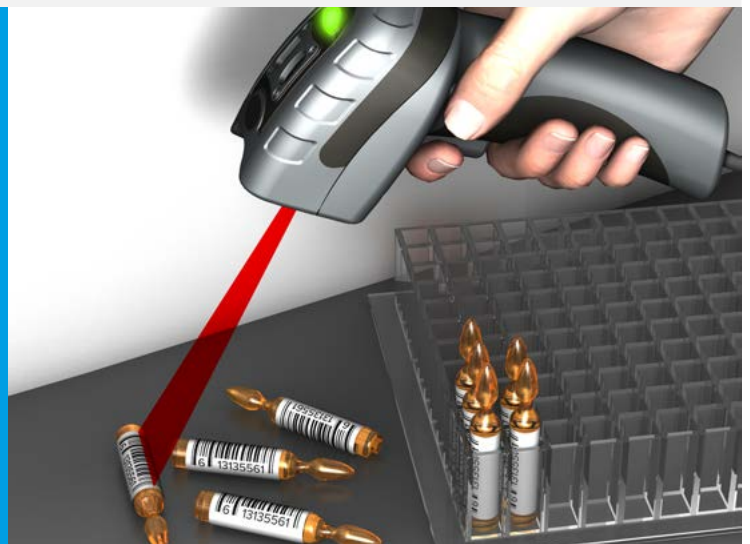 Data processing and parsing with JavaScript

| 1D | 2D | PDF | POSTAL | DPM |

Applications

For component tracing where direct mark codes are frequently used.
On assembly lines.

Code reading

- During assembly
- In goods receiving
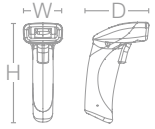- For warehousing
- For commissioning
- In outgoing goods
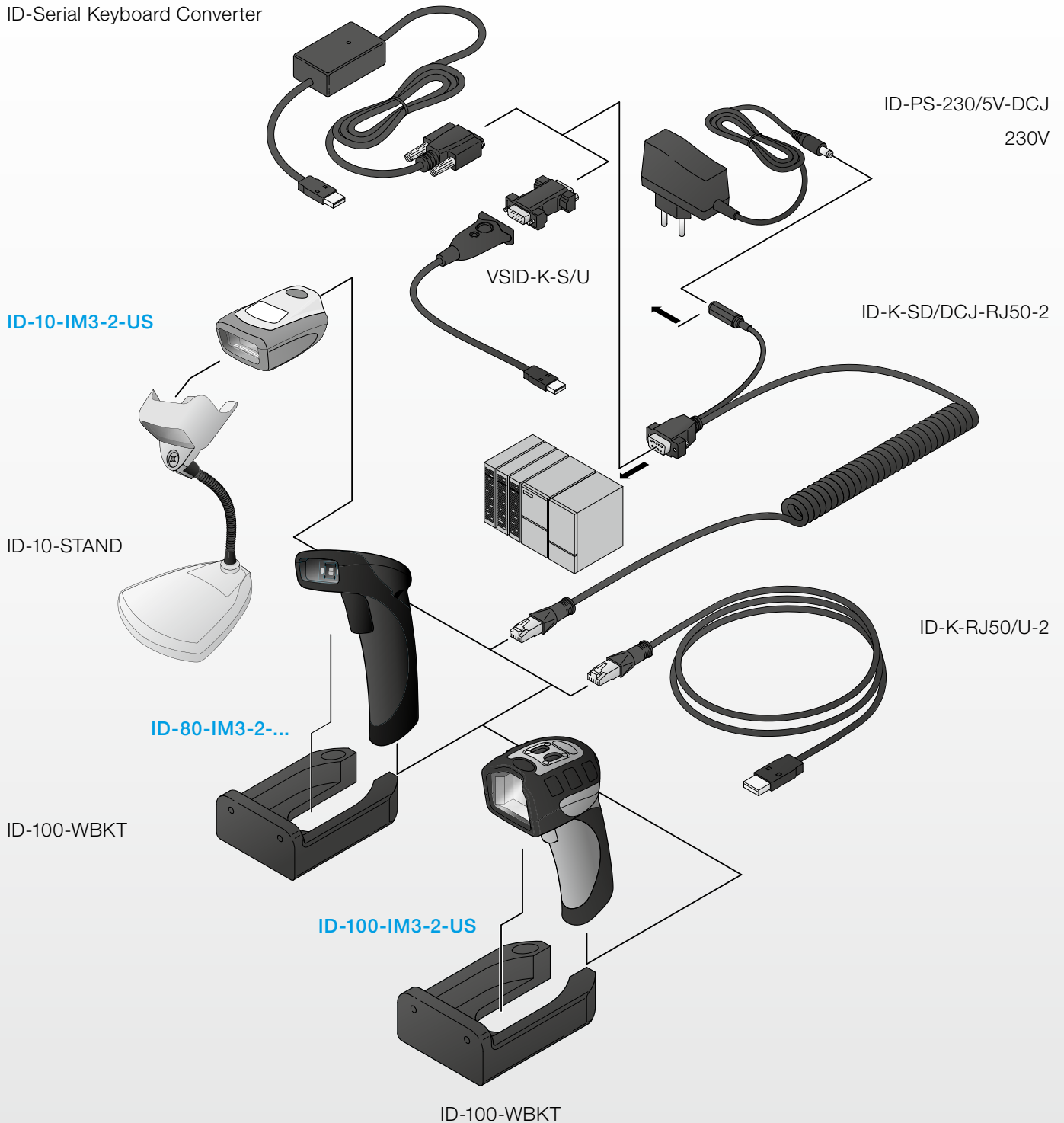
NOTES

TECHNICAL DATA
ID-10, ID-80 AND ID-100

ID reader	ID-10 ID-10-IM3-2-US	ID-80 ID-80-IM3-2-S ID-80-IM3-2-U	ID-100 ID-100-IM3-2-US
Housing dimensions H x W x D	29 x 49 x 67 mm	142 x 51 x 85 mm	160 x 49 x 75 mm
Housing material	Plastic	Plastic	Plastic
Weight	55 g	110 g	130 g
Interfaces	• RS232 (in operation with ID-K-SD/DCJ-RJ50-2) • USB-A (operation with ID-K-RJ50/U-2)	• RS232 (in operation with ID-K-SD/DCJ-RJ50-2) • USB-A (operation with ID-K-RJ50/U-2)	• RS232 (in operation with ID-K-SD/DCJ-RJ50-2) • USB-A (operation with ID-K-RJ50/U-2)
Connection	RJ 50	RJ 50	RJ 50
Service voltage	5 V DC	5 V DC	5 V DC
Resolution	960 x 640 pixels	1,280 x 960 pixels	1,280 x 960 pixels
Position scanner to code	Tilt 180°, Pitch ± 65°, Skew ± 60°	Tilt 180°, Pitch ± 65°, Skew ± 60°	Tilt 180°, Pitch ± 65°, Skew ± 60°
Ambient temperature during operation	-20 to +55 °C	-20 to +50 °C	-20 to +55 °C
Operating ranges*	20 – 300 mm	30 – 400 mm	0 – 200 mm
Functional scope			
1D codes (barcodes)	Code 11 Code 32 Code 39 Code 93 Code 128 Interleaved 2 of 5 GS1 DataBar BC 412 Codabar IATA 2 of 5 Hong Kong 2 of 5 Matrix 2 of 5 MSI Plessey NEC 2 of 5 Pharmacode Plessey Straight 2 of 5 Telepen Trioptic UPC / EAN / JAN	Code 11 Code 32 Code 39 Code 93 Code 128 Interleaved 2 of 5 GS1 DataBar BC 412 Codabar IATA 2 of 5 Hong Kong 2 of 5 Matrix 2 of 5 MSI Plessey NEC 2 of 5 Plessey Straight 2 of 5 Telepen Trioptic UPC / EAN / JAN	Code 11 Code 32 Code 39 Code 93 Code 128 Interleaved 2 of 5 GS1 DataBar (RSS) BC 412 Codabar IATA 2 of 5 Hong Kong 2 of 5 Matrix 2 of 5 MSI Plessey NEC 2 of 5 Pharmacode Plessey Straight 2 of 5 Telepen Trioptic UPC / EAN / JAN
2D codes	Data Matrix Data Matrix Rectangular Extension QR Code Micro QR Code QR Model 1 Aztec Code Han Xin Maxi Code	Data Matrix Data Matrix Rectangular Extension QR Code Micro QR Code QR Model 1 Aztec Code GoCode® (protected - additional license required)	Data Matrix (ECC 0-200) QR Code Micro QR Code Aztec Code Code 49 Codablock F Han Xin Maxi Code
Stacked codes	PDF 417 Micro PDF GS1 Composite (CC-A/CC-B/CC-C) Codablock F Code 49 Grid Matrix	PDF 417 Micro PDF GS1 Composite (CC-A/CC-B/CC-C)	PDF 417 Micro PDF 417 GS1 Databar (Composite & Stacked) GS1 Composite (CC-A/CC-B/CC-C) Codablock

*Note: Operating ranges depend on the type, size and quality of the code and read field.

ACCESSORIES
FOR ID READERS

ID-10 / ID-80 / ID-100

All accessories can be used for all three ID readers - except for the stand of the ID-10 and the brackets (ID-100-WBKT).

ID-Serial Keyboard Converter

ID-PS-230/5V-DCJ

230V

ID-10-IM3-2-US

VSID-K-S/U

ID-K-SD/DCJ-RJ50-2

ID-10-STAND

ID-80-IM3-2-...

ID-100-WBKT

ID-K-RJ50/U-2

ID-100-IM3-2-US

ID-100-WBKT

SOLUTIONS. CLEVER. PRACTICAL.

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