For our customers we achieve excellent results, without sacrificing our human qualities. Open and honest we stand by each other, always treating others respectfully. And we enjoy exceeding ourselves.

- **Competence**
  - Ideas, knowledge, energy, and risk taking (and not titles or positions) are our drivers.

- **Total Information**
  - Share information with all our business partners.

- **Fair Sharing**
  - We always seek to share evenly, material things as well as feedback.

- **Dynamic Development**
  - All our relationships as well as our thinking habits are subject to improvements, all the time.
POSITAL BUSINESS STRATEGY

Built To Order Production System – IT System In The Cloud

- Over 430,000 Product Versions
- 3 Day Deliveries For Standard Versions
- One global PDM/ERP System In The Cloud For Design, Manufacturing And Marketing
- Test Equipment Connected To Cloud
- Video Based Manufacturing Instructions in the Cloud – No Language!
- Remotely Controlled Factory
- Unskilled Labor

- Totally Integrated Global
- IT System In The Cloud
POSITAL BUSINESS STRATEGY

Product Innovation

Large Variety of Product Line

1. Excellent Magnetic Encoder
2. Wiegand Technology
3. Dynamic Inclinometer
4. Loading...
5. Programmable Incremental Encoder
What’s new?
MODBUS RTU

Key Benefits
1. Open Standard
2. User Friendly - Easy to Implement
3. Cost efficient – Low cost Bus Product
4. Compact Design Based on the Magnetic UCD-Platform
5. Fully Programmable Resolution -> Stock Program Suitable

Programmable Parameters
1. Baudrate
2. Parity
3. Device Address
4. Termination Resistor
5. ST & Total Resolution
6. Preset
7. Count Direction
8. Speed Mode (RPM, Degree/sec, steps/sec, rad/sec, hertz)
9. Limit Switch (Low & High)
10. Factory Setting
MODBUS RTU

Version Space

- IXARC
- Resolution: 16 bit
- Accuracy: 0.088°

<table>
<thead>
<tr>
<th># Connections</th>
<th>Direction</th>
<th>Housing Ø</th>
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<tbody>
<tr>
<td>1</td>
<td>Axial / Radial</td>
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<tr>
<td>2</td>
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<td>58</td>
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<tr>
<td>2</td>
<td>Radial</td>
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Typekey: UCD-M200B-…
## Competitors Overview

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>CAS</th>
<th>CMx582</th>
<th>AFM60A</th>
<th>F58X8</th>
<th>RM-105/RM-106</th>
<th>RIPOS</th>
<th>UCD-M200B</th>
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<tbody>
<tr>
<td><strong>Sensing</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>Optic</td>
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<td></td>
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<tr>
<td>Accuracy</td>
<td>90°</td>
<td>0.50°</td>
<td>0.03°</td>
<td>?</td>
<td>0.088°</td>
<td>0.088°</td>
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<tr>
<td>Absolute</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MT</td>
<td>Battery</td>
<td>Gearbox</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
<td></td>
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<tr>
<td><strong>Hardware</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Temperature Range</td>
<td>-25…80°</td>
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<td>-25…80°</td>
<td>-40…85°</td>
<td>-40…85°</td>
<td>-20…60°</td>
<td>-40…85°</td>
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<tr>
<td><strong>Process Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ST</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>16</td>
<td>16</td>
<td>12</td>
<td>16</td>
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<tr>
<td>MT</td>
<td>12</td>
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<td>2</td>
<td>16</td>
<td>16</td>
<td>12</td>
<td>31 - ST</td>
</tr>
<tr>
<td>Velocity</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td><strong>List Price [€]</strong></td>
<td>221</td>
<td>?</td>
<td>?</td>
<td>478</td>
<td>?</td>
<td>?</td>
<td>&lt;300</td>
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</tbody>
</table>
IXARC IO-LINK ROTARY ENCODER

- Based on the Posital Magnetic Platform
- UCD Accuracy
- ST resolution 16 Bit / MT revolution 31 Bit
- Output
  - Position
  - Velocity
  - Temperature
  - Acceleration (in planning)
  - Vibration (in planning)
  - Shock (in planning)
- 5 Electronic Cam Switch (ECS)
- 1 HW I/O-Pin (ECS, Preset or Reset)
- Extended Diagnostic Features
- 36 / 42 / 58 mm Flanges + Housings
- Up to IP69K Protection

Typekey: UCD-LK00B-…
## IXARC IO-LINK ROTARY ENCODER

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Product</th>
<th>Technology</th>
<th>Accuracy</th>
<th>Absolute</th>
<th>MT Hardware</th>
<th>MT Process Data</th>
<th>MT Velocity</th>
<th>List Price [€]</th>
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<tbody>
<tr>
<td>SICK</td>
<td>Ah36</td>
<td>Magnetic</td>
<td>0.25 °</td>
<td>Yes</td>
<td>Gearbox</td>
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<tr>
<td>ELECTRONIC</td>
<td>Cmx582</td>
<td>Magnetic</td>
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<td>Yes</td>
<td>Gearbox</td>
<td>13 MT</td>
<td>Yes</td>
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<tr>
<td>TURCK</td>
<td>C0x582</td>
<td>Optical</td>
<td>1 Digit</td>
<td>No</td>
<td>Gearbox</td>
<td>18 ST</td>
<td>No</td>
<td>239</td>
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<tr>
<td>POSITAL FRABA</td>
<td>QR24</td>
<td>Inductive</td>
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<td>Counter</td>
<td>16 MT</td>
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<tr>
<td></td>
<td>Rx3 / RxP</td>
<td>Magnetic</td>
<td>0.09 °</td>
<td>No</td>
<td>No</td>
<td>31 ST</td>
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<td></td>
<td>Rmx300</td>
<td>Magnetic</td>
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<td>No</td>
<td>Yes</td>
<td>31 ST</td>
<td>Yes</td>
<td>340</td>
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<tr>
<td></td>
<td>ST</td>
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<td>Wiegand</td>
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<tr>
<td></td>
<td>MT</td>
<td>Magnetic</td>
<td>0.09 °</td>
<td>Yes</td>
<td>Wiegand</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Process Data**

- **ST**
  - Ah36: 14
  - Cmx582: 13
  - Co582: 18
  - QR24: 16
  - Rx3 / RxP: 16
  - Rmx300: 16
  - ST: 14

- **MT**
  - Ah36: 12
  - Cmx582: 12
  - Co582: 18
  - QR24: 13
  - Rx3 / RxP: No
  - Rmx300: 31 – ST
  - ST: No
  - MT: 31 – ST

**Velocity**

- Ah36: Yes
- Cmx582: Yes
- Co582: Yes
- QR24: No
- Rx3 / RxP: Yes
- Rmx300: Yes
- ST: No
- MT: Yes

**List Price [€]**

- Ah36: 428
- Cmx582: 306
- Co582: ?
- QR24: 239
- Rx3 / RxP: 160
- Rmx300: ?
- ST: 185
- MT: 340
WHERE IS IO-LINK BENEFICIAL?

- Factory Automation
- Packaging Machinery
- Process Automation
- Production Machinery
KIT ENCODER UPDATES
POSITAL KIT ENCODERS

36mm KIT Encoder! New Version!

- BISS-C, SSI interface
- ST 17 bits, MT 16 bits
- Batteryless & Non-Gearbox solution
- Accuracy ±0.0878° after calibration
- Simplified mechanical installation via preassembled mounting screws on the carrier
- upgraded carrier material and production optimization by mounting of the PCB on the carrier via heat staking
- Modified PCB layout, leading to a wider clock frequency range of 80kHz – 10MHz for BiSS C interface
- Additional diagnostic coverage and bootloader capability enabled by the new software
POSITAL KIT ENCODERS

22mm KIT, World's Smallest MT Encoder!

- BiSS-C/SSI interface available
- Absolute single-turn and multi-turn functionality
- No battery, no gear – no maintenance
- Ultra-compact – 22 mm in diameter, 23 mm in height
- Electrical Resolution: Up To 17 bits
- Multiturn Range: Up To 32 bits
- Integrated temperature sensor on board
- Easy Installation with Self-Calibration
POSITAL KIT ENCODERS

Multiturn Hollow Shaft Kit Encoder

- BiSS-C interface
- Kit Encoder for Integration to Motors, Robot Joints
- Up to ST 19 bits, MT 16 bits
- 30 mm Hollow Shaft Diameter
- 80 mm Outer Diameter
- Energy-Harvesting-System Based on Wiegand Effect
- No Battery – No Maintenance
- Large Axial (0.1mm) and Radial Mounting tolerance (0.2mm)
- Easy Installation with No Calibration Required
- Max. Permissible Speed 6000 RPM
- Stator-Rotor Air Gap 0.7mm
- ‘Product of 2019’ Prize from Control Engineering
Tier 1 – Above 100k Multiturn
Fanuc, Mitsubishi, Yaskawa, Panasonic, Siemens, Lenze, Delta, Innovance, HCFA...

Tier 2 – 5k-100k Multiturn
Moons, Dunker, Maxon, Kinco, Fuji, KHI, Shinano...

Tier 3 – 20-5k
System Integrators
Machinery, AGV
ACCESSORIES

New and Cost Effective

- M12 IP57 Cordsets
- 5pin/8pin A-Coded Female Versions
- 2/3/10m Shielded PUR Cable
- UV/Oil Resistant and Suitable for Outdoor Use
COMING SOON

Spring Loaded Arm For The Measuring Wheels
STAY IN TOUCH

We can’t meet in person now

But we still can organize online
- Customer Meeting
- Product presentation
- Training Session
Any Questions?
What is it Again?

- Save Time and Money
- New User’s Interface
- Time schedule
- Some Numbers
WHY ENCODERMATCH?

POSITAL 1st Mission:

Customer Perspective
Everybody Works for the Customer, or Someone Else Who Does.

How:

Customer Service and Support
Always Provide the Customer with the Best Support and Assistance (Human and Tools).

Encodermatch:

Online Cross-Referencing Tool
Worldwide Accessible Tool Providing our Technical Knowledge.
What is it Again?

Save Time and Money

New User’s Interface

Time Schedule

Some Numbers
SAVE TIME AND MONEY

Find a Replacement in One Minute

- Available Online
- Built on our Expertise
- No Waiting Time
- 3 Easy Steps
- 1,300,000+ Keys
CONTENT

- What is it Again?
- Save Time and Money
- New User’s Interface
- Time Schedule
- Some Numbers
COMING SOON

New User’s Interface

» Central design
» Less Information
» More Focus

» Top Series
» Go to ProductFinder
» Fill Further in

» Type Key Field
» Dynamic Hint

» Comfort Functionalities
» Auto-scroll

» Demo: development system
COMING SOON

New User’s Interface

We found the following product for you:

UCD::IPH00-XXXXX-01M0-2AW

Compatibility level: 3 noticeable differences

- Mechanics: no Alarm/Sense signal
- Connection: different cable length
- Interface: no 4x M2 holes
- Protection: Fully compatible

» New result Display Design
» No Scoring System Anymore
» 4 Rated Categories
» Discrepancies Definitions Reworked
What is it Again?
Save Time and Money
New User’s Interface
Time Schedule
Some Numbers
GOING LIVE

How do We Improve Even Further?

Done
- New User’s Interface
- Better Fuzzy Algorithm

Remaining for Going Live
- Linking new UI to home page
- Marketing campaign

Future Ideas
- Web Plug-In

Constantly Ongoing Actions

Answer Series Requests: ~ 25% of Unsuccessful Requests are Due to Users Entering Only the Series – Ongoing process

Alternative Solutions: Give the User a Choice and Support for Complicated Cases – Ongoing process
What is it Again?
Save Time and Money
New User’s Interface
Time Schedule
Some Numbers
NUMBERS EVOLUTION

YIELD RATE

- Stabilization -> Maturity
- Objective: 70%
- How do We Achieve it?
  - Series Requests
  - Monthly Analysis
  - More Data
NUMBERS - PRODUCTS

SEARCHES PER COMPETITORS

- **Kuebler:** 5.2%
- **Hohner:** 3.3%
- **Lika:** 2.5%
- **Omron:** 2.4%
- **Pepperl + Fuchs:** 2.3%
- **Baumer:** 2.0%
- **Bei Sensors:** 2.0%
- **Sick:** 1.8%

**PRODUCTS**

- UCD-IPH00-XXXXX-L100-CAW
- UCD-IPT00-XXXXX-R060-PAQ
- UCD-IPH00-XXXXX-L100-PRQ
- UCD-IPH00-XXXXX-L100-2RW
- UCD-IPH00-XXXXX-02MA-2RW
- UCD-IPT00-XXXXX-Y060-PRQ
- UCD-IPH00-XXXXX-L100-PRL
THANK YOU FOR YOUR ATTENTION!

Any Questions?

URL Address
www.encodermatch.com