Leuze electronic

the sensor people

SMART
SENSOR
BUSINESS

DATA TRANSMISSION PHOTOELECTRIC SENSORS

For contact-free, optical free-space data transmission

www.leuze.com

A WORLD FIRST: INTEGRATED WEB SERV FOR REMOTE DIAGNOSI

The DDLS 500 provides a bandwidth of 100 Mbit/s for the optical data transmission of all Ethernet protocols.

***integrated*connectivity.**

MUCH MORE THAN A CABLE REPLACEMENT

Optical data transceivers are the right choice for any application where data needs to be transmitted without cables and without interference. They enable contact-free communication wherever mechanical systems are pushed to their technical limitations.

Unique worldwide, the web server integrated in the DDLS 500 enables remote diagnosis. Furthermore, the DDLS 500 can be detected as a PROFINET participant. That is **SMARTER PRODUCT USABILITY** like only Leuze electronic offers.

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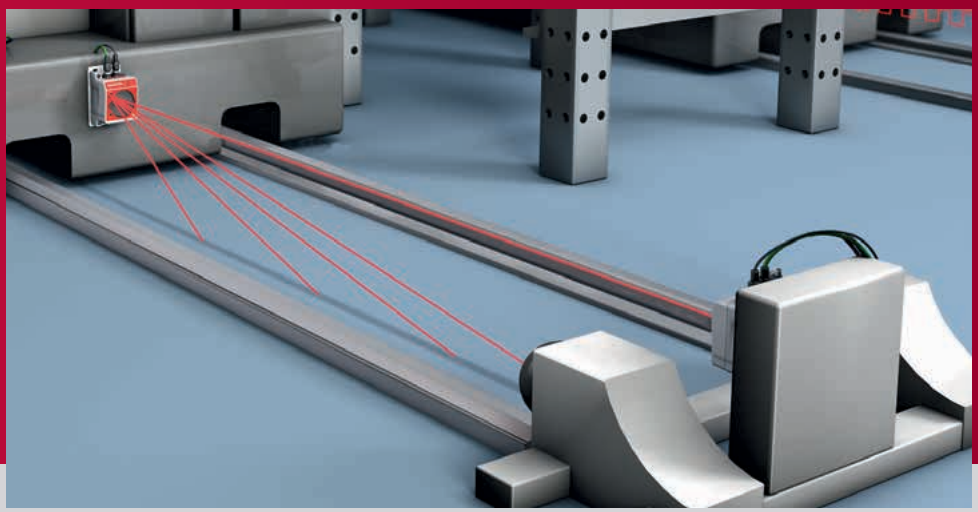


FAST AND MODULAR

Through the modular basic design, all functions can be flexibly arranged depending on requirements.
Thus, the devices always do exactly what is needed and thereby offer an optimum price/performance ratio.

With a bandwidth of 100 Mbit/s, all commonly used Ethernet protocols can be transmitted up to a range of 200 m.
The DDLS 500 thus supports, e.g., PROFINET, Ethernet IP, EtherCAT, Ethernet TCP/IP, Ethernet UDP and many others.

easy handling.

- Thanks to the ***single-hand*** adjustment for one-man alignment, the devices can be precisely aligned with each other by just one person
- Convenient laser alignment aid for easy alignment and mounting
- A pre-mounted attachment plate with alignment screws simplifies both mounting and fine adjustment
- Clear indication of the receiving level simplifies maintenance and diagnosis
- An LED which is also clearly visible from a great distance indicates the status of the DDLS 500

integrated connectivity.

- Access to all diagnostic data via an integrated web server
- Transfer of diagnostic data to the control
- Worldwide access to diagnostic data

think modular.

All of the necessary functions can be combined modularly with the base model. For example, any of the following functions can be selected:

- Operating range
- Laser alignment aid
- Diagnosis via remote maintenance
- Heating

availability control.

Continuous monitoring of the receiving level means that the user can be alerted to an impending failure (e.g. as a result of excessive soiling) in good time. The prefailure message is also available as a signal on a switching output. To permit fast visual control, the DDLS 500 also has a LED display that is clearly visible even from a distance of 200 m. All relevant information is precisely depicted in the control panel.

Thanks to the ***integrated*** connectivity function, this information can be passed directly to the control or queried worldwide via a web server.

A RED LASER SHOWS THE WAY

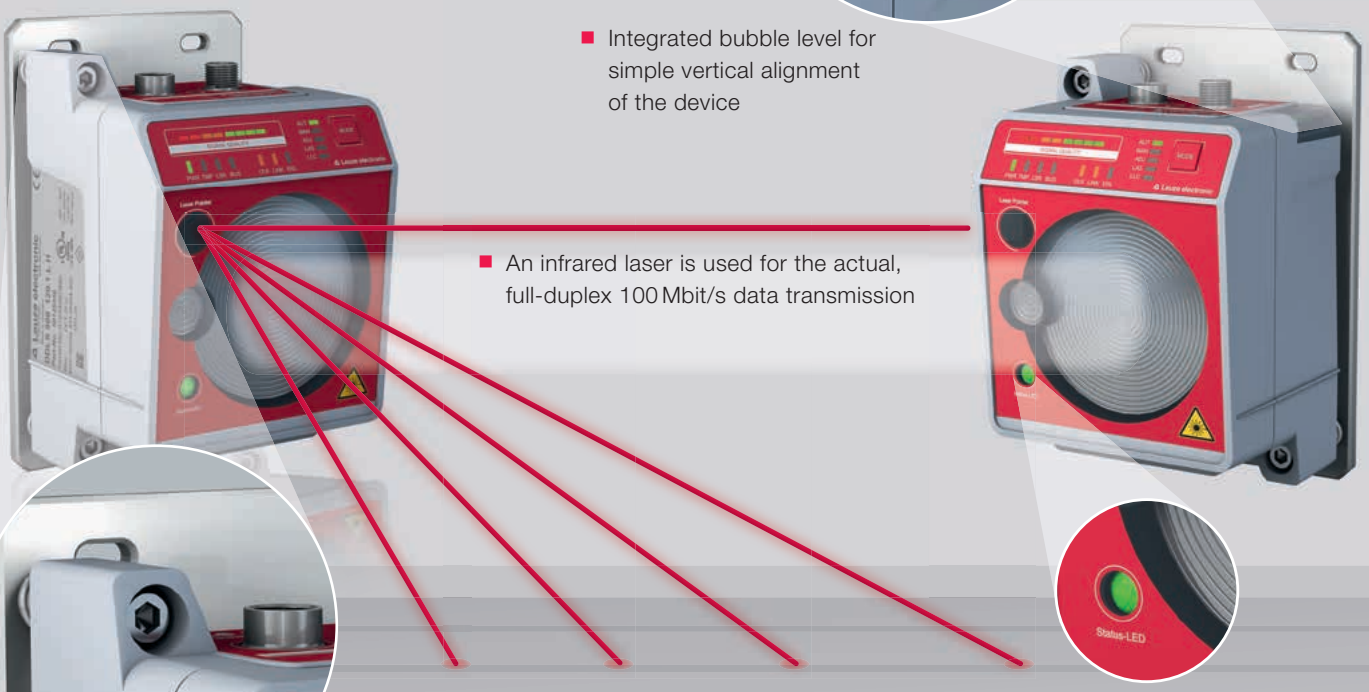
The integrated laser alignment aid and the tried-and-tested mounting principle minimize the mounting time.

MOUNTING AND ALIGNMENT WERE NEVER EASIER

The pre-mounted mounting plate allows uncomplicated alignment of the DDLS 500.

- An alignment straightedge can be placed on the housing for mounting at short distances
- For mounting at greater distances, laser spots are projected on the ground parallel to the optical axis. They are used for horizontal alignment of the DDLS 500 and the integrated bubble level is used for vertical alignment. A laser spot clearly indicates the position at which the opposing device must be mounted.

- Integrated bubble level for simple vertical alignment of the device



- An infrared laser is used for the actual, full-duplex 100 Mbit/s data transmission

- The DDLS 500 is attached to the mounting plate by spring-mounted wobble elements. This makes alignment of the devices with each other extremely easy

- Simple quick diagnosis which is clearly visible from a great distance is possible by means of the integrated remote LED

THE FUTURE BEGINS HERE

Thanks to Industrial Ethernet, the 508*i* / 548*i* optical data transceiver for the first time offers the possibility of remote diagnosis.

THE NEW FUTURE STANDARD OF DATA TRANSMISSION PHOTOELECTRIC SENSORS

Previously all optical data transmission photoelectric sensors were nothing more than a transparent cable substitute. The control was therefore unable to detect them and, consequently, could not address them either. Industrial Ethernet now enables process, diagnostic and status data to be transmitted simultaneously on one cable. As a result, data transmission photoelectric sensors can now perform new, extended functions.

The DDLS 508i is the first device worldwide to offer the possibility of remote diagnosis where access, i.e. error diagnosis, is possible externally via Ethernet. Here the DDLS 508i is a pioneer and sets the standard for the future.

- Access via remote diagnosis without being present at the device
- The diagnostic data can be called up anywhere in the world
- The DDLS 548i is a PROFINET IO device and also allows configuration / diagnosis via GSDML modules

FOR EXAMPLE, THE FOLLOWING FUNCTIONS CAN BE CONTROLLED AND CALLED UP VIA REMOTE MAINTENANCE

- **LLC (Link Lost Counter)**
  Counts how often the optical path has been interrupted
- **OLK**
  Optical link OK
- **LINK**
  Indicates the state of the data line upstream of the optical data transmission
- **ERL**
  Indicates the state of the data connection at the opposing device
- **LSR**
  Provides an early warning of decreasing laser power
- **TEMP**
  Temperature warning if temperatures are too high or too low
- **PWR**
  Voltage and overall state of the device
- **Received signal level**
  Signal quality indication

A WORLD FIRST

INTEGRATED WEB SERVER FOR REMOTE DIAGNOSIS

THE SPECIALIST FOR THE TRANSMISSION OF FIELDBUSES

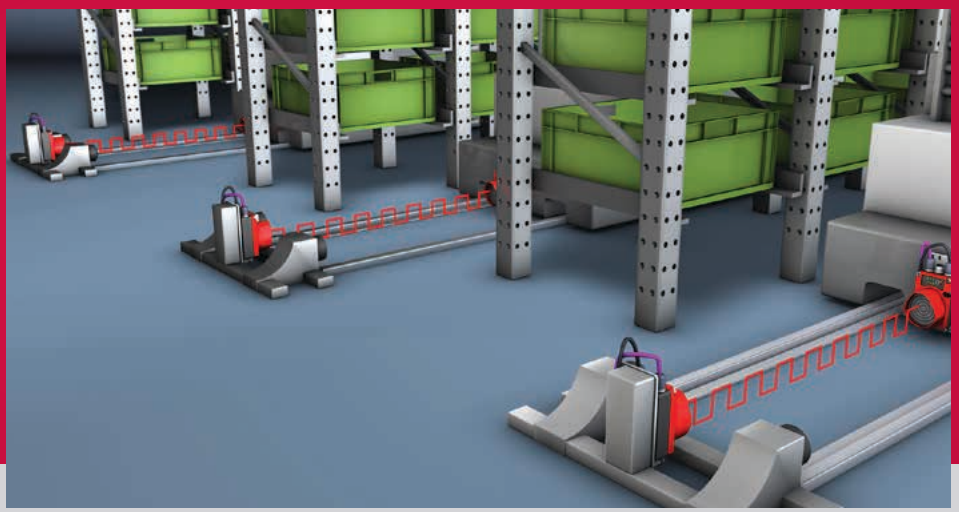
The DDLS 200 offers contact-free data transmission by means of infrared light.

easyhandling.

JUST AS EASY AND RELIABLE AS A COPPER CABLE

The DDLS 200 series which has been tried and tested for many years is used wherever transmission speeds of max. 2 Mbit/s are sufficient for an application.

The optical data transceiver is not a participant in a fieldbus, but transmits the data communication 100 % transparently and is therefore just as reliable and simple as a copper cable.



CORE ELEMENTS OF MODERN SYSTEM CONSTRUCTION

This optical data transceiver is used primarily in system construction wherever fieldbuses such as PROFIBUS, DeviceNet or Ethernet etc. are transmitted on moving system parts. For example, on high-bay storage devices, gantry crane bridges or transfer carriages. The DDLS 200 supports all major international protocols. Owing to the infrared data transmission, the DDLS 200 is free of interference and impresses with its fast transmission rates and its enormous operating range of up to 500 m.

easyhandling.

- Thanks to the ***single-hand*** adjustment for one-man alignment, the data light beam can be precisely aligned by just one person
- A pre-mounted attachment plate with alignment screws simplifies both mounting and fine adjustment
- Clear indication of the device and transfer status simplifies maintenance and diagnosis

thinkmodular.

All of the necessary functions can be combined modularly with the base model. For example, any of the following functions can be selected:

- Supports all relevant international fieldbus protocols
- Operating ranges (variants available up to 500 m)
- Connection technology (M12 and terminals)
- Heating
- Opening angle

availabilitycontrol.

Constant monitoring of the receiving level means that the user can be alerted to an impending failure (e.g. as a result of excessive soiling) in good time. The prefailure message is also available as a signal on a switching output. All relevant information is precisely depicted in the control panel.

TECHNICAL DATA AND CORRESPONDING ACCESSORIES

Two devices with top data transmission performance.

	DDLS 500	DDLS 200
Supply voltage	18 …30 V DC	18 …30 V DC
Power consumption without heater	200 mA (at 24 V)	Approx. 200 mA at 24 V DC
Power consumption with heater	800 mA (at 24 V)	Approx. 800 mA at 24 V DC
Beam spread (transmitter)	±0.5° to the optical axis	± 0.5° with respect to the optical axis for 120 m … 500 m devices ± 1.0° with respect to the optical axis for 80 m devices ± 1.5° with respect to the optical axis for 30 m devices
Max. transmission rate / bandwidth	100 Mbit/s	2 Mbit/s
Operating ranges	40 / 120 / 200 m	40 / 80 / 120 / 200 / 300 / 500 m
Light source: transmitter / alignment laser	Infrared / red	Infrared
Degree of protection	IP 65	IP 65
Dimensions (H × W × D) Range: 40 / 120 m Operating range 200 m	 156 × 100 × 99.6 mm 156 × 100 × 122 mm	190 × 89.25 × 120 mm
Operating temperature: Without heater With heating	 -5 … 50 °C -35 … 50 °C	 -5 … +50 °C -30 … +50 °C (non-condensing)
Supported protocols	e.g. Ethernet TCI/IP and UDP, PROFINET RT, EtherCAT, Ethernet IP, webcams …	PROFIBUS, INTERBUS, DeviceNet, CANopen, DH+, RIO, RS 485, RS 422

ACCESSORIES AND MOUNTING SYSTEMS

Our ***easy***handling claim starts with mounting and alignment. To ensure that the DDLS can be mounted securely and easily, we have developed matching accessories for simple mounting and connection of our devices.

Ready-made cables for almost all interface types

Adapter – M12 to RJ45

Adapter plate – DDLS 200 to DDLS 500

Connector plug in M12 design

Terminating resistor for M12 devices

OUR PROMISE TO YOU

SMARTER **PRODUCT USABILITY**

With regard to our product developments, we systematically place emphasis on the especially good usability of all devices. To this end, simple mounting and alignment are taken into account – just as the uncomplicated integrability of the sensors in existing field bus systems and easy configuration, e.g. via a web browser, are.

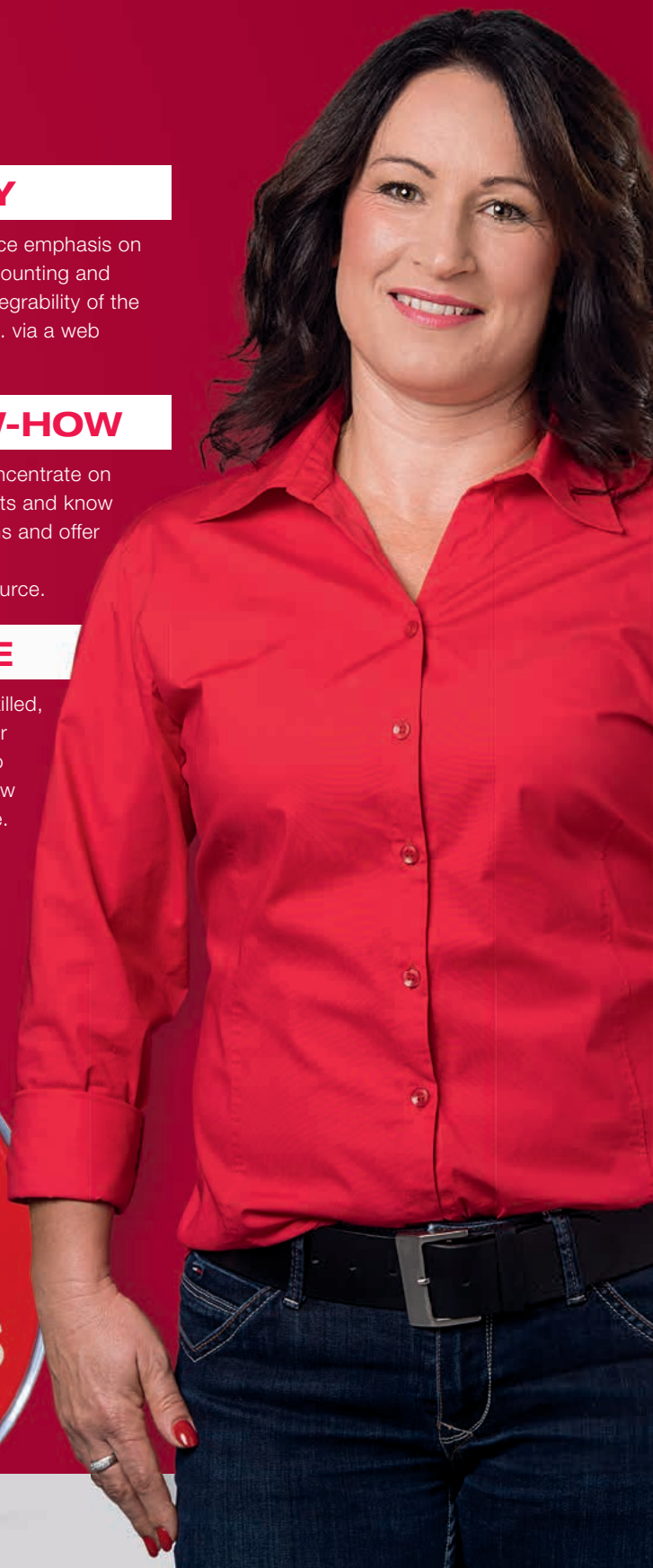
SMARTER **APPLICATION KNOW-HOW**

Whoever can do it all, can do nothing right. Which is why we concentrate on selected target sectors and applications. There, we are specialists and know all aspects inside out. For this purpose, we optimize our solutions and offer a comprehensive product range that makes it possible for our customers to obtain the absolute best solutions from a single source.

SMARTER **CUSTOMER SERVICE**

The technical and personal proximity to our customers, and a skilled, straightforward handling of queries and problems, are among our strengths – and will remain so. Consequently, we will continue to expand our service offerings and, indeed, also forge ahead in new directions to persistently redefine the utmost in customer service. Whether on the phone, on the Internet or on-site with our customers – regardless of when and where the expertise of the sensor people is needed at any time.

Info at: **www.leuze.com**



Ivana Bechtle,
Head of Customer Care Center –
Region North / East

Switching Sensors
Optical Sensors
Ultrasonic Sensors
Fiber Optic Sensors
Inductive Switches
Forked Sensors
Light Curtains
Special Sensors

Measuring Sensors
Distance Sensors
Sensors for Positioning
3D Sensors
Light Curtains
Forked Sensors

Products for Safety at Work
Optoelectronic Safety Sensors
Safe Locking Devices, Switches and Proximity Sensors
Safe Control Components
Machine Safety Services

Identification
Bar Code Identification
2D-Code Identification
RF Identification

Data Transmission /
Control Components
MA Modular Connection Units
Data Transmission
Safe Control Components
Signaling Devices
Connection Technology and Passive Distribution Boxes

Industrial Image Processing
Light Section Sensors
Smart Camera

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Subject to modifications and errors