



 **Leuze electronic**

the **sensor** people



# Approved Electrical Equipment List for the Hyundai Motor Company


Release list  
Electronic Assembly


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## 1 Change history

Version	Date	Type of change	Pages
1.0	2015-06-30	Re-creation of release list	All
1.1	2019-02-12	Remove the sensors BCL 90 Summarize the sensors BCL 500i Summarize the sensors BCL 300i Summarize the sensors MLC 500 Add the sensors CML 700 Add the sensors CSL 505 Add the sensors DCR 200i Add the sensors DDLS 500 Add HT10L1.3/L66-M12 Add further accessories Update the internet links	Different pages

## 2 Remarks

### 2.1 General Information

Leuze electronic GmbH + Co. KG assumes no liability for the currentness of this release or for the correctness of the technical data.

### 2.2 Internet links for the technical data

Safety light curtains

[MLC 500](#); [MLC 520](#)

Multiple light beam safety devices

[MLD](#)

Throughbeam photoelectric sensors

[LS 95](#)

[ILS 95](#)

[LSE 96](#)

[LSS 96](#)

Polarized retro-reflective photoelectric sensors

[PRK 96](#)

[PRKL 8](#)

[PRKL 25B](#)

Ultrasonic sensors

[VRTU 430](#)

Color sensor

[CRT 20B](#)

Inductive switches

[ISS 244](#)

**Stationary barcode readers**

[BCL 21/22](#)

[BCL 90, BCL 301i](#)

[BCL 500i/501i; BCL 508i](#)

**Optical distance sensors**

[ODSL 30; ODSL 96B](#)

[AMS 300i; AMS 301i; AMS 304i](#)

**Stationary 1D- and 2D-Code readers**

[DCR 200i](#)

**Optical data transmission**

[DDLS 200](#)

[DDLS 500](#)

**Measuring light curtains**

[CML 700](#)

**Switching light curtains**


[CSL 505](#)


**Diffuse sensors with background suppression**


[HT 10](#)


### 3 Overview

#### 3.1 Safety light curtains

Safety light curtains MLC 5xx	
Part no.	Article description
<p><b>MLC 500</b></p>  <p><i>*(depending on <b>length</b> and <b>resolution</b>)</i></p>	<p>Safety light curtain transmitter, Type 4</p> <p>Resolution: 14mm, 20mm, 30mm, 40mm, 90mm</p> <p>Connection: M12 5 pin</p> <p>Length: 150 – 3000 mm</p> <p>Protection class: IP65</p> <p>Operating temperature: -30C° ... +55C°</p> <p>Operating range: 0-6 m ... 0-20 m</p>


Safety light curtains MLC 5xx	
Part no.	Article description
<p><b>MLC 510</b></p>  <p><i>*(depending on <b>length</b> and <b>resolution</b>)</i></p>	<p>Safety light curtain receiver, Type 4</p> <p>Resolution: 14mm, 20mm, 30mm, 40mm, 90mm</p> <p>Connection: M12 5 pin</p> <p>Length: 150 – 3000 mm</p> <p>Functions: Automatic start/restart</p> <p style="padding-left: 40px;">Transmission channel changeover</p> <p>Interfaces: OSSD (max. 380mA), AS-i</p> <p>Max. Cable length: 100m</p> <p>Protection class: IP 65</p> <p>Operating temperature: - 30C° ... 55C°</p> <p>Operating range: 0-6m ... 0-20m</p>

Safety light curtains MLC 5xx	
Part no.	Article description
<p><b>MLC 520</b></p>  <p><i>*(depending on <b>length</b> and <b>resolution</b>)</i></p>	<p>Safety light curtain receiver, Type 4</p> <p>Resolution: 14mm, 20mm, 30mm, 40mm, 90mm</p> <p>Connection: M12 8 pin</p> <p>Length: 150 – 3000 mm</p> <p>Functions: Automatic start/restart            Contactor monitoring (EDM)            Transmission channel changeover</p> <p>Interfaces: OSSD (max. 380mA)</p> <p>Max. Cable length: 100m</p> <p>Protection class: IP65</p> <p>Operating temperature: – 30C° ... 55C°</p> <p>Operating range: 0-6m ... 0-20m</p>


Safety light curtains MLC 5xx	
Part no.	Article description
<p><b>MLC 530</b></p>  <p><i>*(depending on <b>length</b> and <b>resolution</b>)</i></p>	<p>Safety light curtain receiver, Type 4</p> <p>Resolution: 30mm, 40mm, 90mm</p> <p>Connection: M12 8 pin</p> <p>Length: 150 – 3000 mm</p> <p>Functions: Smart Process Gating</p> <ul style="list-style-type: none"> <li>Blanking</li> <li>Start/restart interlock</li> <li>Contactor monitoring (EDM)</li> <li>Transmission channel changeover</li> </ul> <p>Interfaces: OSSD (max. 380mA)</p> <p>Max. Cable length: 100m</p> <p>Protection class: IP65</p> <p>Operating temperature:– 30C° ... 55C°</p> <p>Operating range: 0-6m bis 0-20m</p>





### 3.2 Switching Light Curtains

Switching Light Curtains CSL 505	
Part no.	Article description
CSL 505 <b>188 different types available *</b>  <i>*(depending on <b>length</b> and <b>beam spacing</b>)</i>	Operating range: 0,3 m ... 5 m Beam spacing: 5 mm ... 100 mm Measurement field length: 35 mm ... 3150 mm Operating temperature: -30°C b...is 50°C Interfaces: Switching outputs Transistor, Push-Pull Type of connection: M8 Protection class: IP 65



### 3.3 Measuring Light Curtains


Measuring Light Curtains	
Part no.	Article description
<p>CML 700</p> <p><b>1000 different types available</b></p> <p>*</p>  <ul style="list-style-type: none"> <li>• CML 720i Standard types, operating range till 6m</li> <li>• CML 730 Operating range till 9m, Detection of transparent objects till 3,5m</li> </ul> <p><i>*(depending on length, beam spacing, interfaces)</i></p>	<p>Operating range: 0,1 ... 3,5 m (CML 720) 0,3 ... 9,5 m (CML 730)</p> <p>Beam spacing: 5 mm ... 40 mm</p> <p>Measurement field length: 160 mm ... 2960 mm</p> <p>Operating temperature: -30°C ... 60°C</p> <p>Interfaces: CANopen, IO-Link, Profibus DP, Profinet, RS 485, analog output</p> <p>Type of connection: M12</p> <p>Protection class: IP 65</p>

### 3.4 Multiple light beam safety devices





Multiple light beam safety devices MLD 5xx		
Part no.	Article	Article description
66501200	MLD500-T3 	Typ: 4, IEC/EN 61496 SIL: 3, IEC 61508 Operating range: 0,5 ... 50 m Number of beams: 3 pcs Beam spacing: 400 mm Connection: Connector, M12, metal Number of Pins: 5 pcs
66533200	MLD510-R3 	Typ: 4, IEC/EN 61496 SIL: 3, IEC 61508 Performance Level (PL): e, EN ISO 13849-1 Category: 4, EN ISO 13849 Number of beams: 3 pcs Beam spacing: 400 mm Response time: 25 ms Connection: Connector, M12, metal Number of Pins: 5 pcs

### 3.5 Throughbeam Photoelectric Sensors



Throughbeam Photoelectric Sensors SR 95		
Part no.	Article	Article description
50026835	LS 95/2.8 SE-L.1 	Operating range limit: 0 ... 20 m Light source: LED, infrared Supply voltage: 10 ... 30 V, DC Connection: Connector, M12, stainless steel Number of pins: 4 pcs Design, housing: cubic Dimensions: 17 mm x 66 mm x 35 mm Housing material: metal Protection class: IP 67 Special design: Activation input
50026836	ILS 95/44 E-L.1 	Switching frequency: 1.000 Hz Supply voltage: 10 ... 30 V, DC Number of digital outputs: 3 pcs Digital output 1: Transistor, PNP, light switching Digital output 2: Transistor, PNP, dark switching Digital output 3: Transistor, PNP, UB switching Connection: Connector, M12, stainless steel Number of Pins: 5 pcs Design, housing: cubic Dimensions: 17 mm x 66 mm x 35 mm Housing material: metal Protection class: IP 67 Special design: Warning output

Throughbeam Photoelectric Sensors SR 96		
Part no.	Article	Article description
50034128	LSE 96M/P-3010-41 	Switching frequency: 500 Hz Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 pcs Digital output 1: Transistor, PNP, light switching Digital output 2: Transistor, PNP, dark switching Connection: Connector, M12, metal Number of pins: 4 pcs Design, housing: cubic Dimensions: 30 mm x 90 mm x 70 mm Housing material: metal Operational controls: 270°-Potentiometer Protection class: IP 67

**Throughbeam Photoelectric Sensors SR 96**


Part no.	Article	Article description
50032003	LSE 96M/R-176W-25 	Switching frequency: 20 Hz Supply voltage: 20 ... 230 V, AC/DC Number of digital outputs: 1 St. Digital output 1: Relay, NC contact/NO contact, light switching Connection: Terminal Number of pins: 5 pcs Design, housing: cubic Dimensions: 30 mm x 90 mm x 70 mm Housing material: metal Operational controls: 270°-Potentiometer Protection class: IP 67
50031651	LSE 96M/R-3310-25 	Switching frequency: 20 Hz Supply voltage: 20 ... 230 V, AC/DC Number of digital outputs: 2 St. Digital output 1: Relay, NC contact/NO contact, light switching Digital output 2: Relay, dark switching Connection: Terminal Number of pins: 5 pcs Design, housing: cubic Dimensions: 30 mm x 90 mm x 70 mm Housing material: metal Operational control: 270°-Potentiometer Protection class: IP 67
50025228	LSS 96M-1070-43 	Light source: LED, infrared Supply voltage: 10 ... 30 V, DC Connection: Connector, M12, metal Number of pins: 4 pcs Design, housing: cubic Dimensions: 30 mm x 90 mm x 70 mm Housing material: metal Protection class: IP 67
50032004	LSS 96M-175W-26 	Operating range limit: 0 ... 39 m Light source: LED, red Supply voltage: 20 ... 230 V, AC/DC Connection: Terminal Number of pins: 2 pcs Design, housing: cubic Dimensions: 30 mm x 90 mm x 70 mm Housing material: metal Protection class: IP 67

### 3.6 Polarized retro-reflective photoelectric sensors



Polarized retro-reflective photoelectric sensors PRK und PRKL		
Part no.	Article	Article description
50035351	PRK 96K/R-3428-25 	Operating range limit: 0,1 ... 24 m Light source: LED, red Switching frequency: 20 Hz Supply voltage: 20 ... 230 V, AC/DC Number of digital outputs: 1 St. Digital output 1: Relay, NC contact/NO contact, light switching Connection: Terminal Number of pins: 5 pcs Design, housing: cubic Dimensions: 30 mm x 90 mm x 70 mm Housing material: Plastic Operational control: 270°-Potentiometer Protection class: IP 67
50036364	PRKL 8/24.91-S12 	Operating range limit: 0 ... 21 m Light source: Laser, red Laser protection class: 2 Switching frequency: 2.800 Hz Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 St. Digital output 1: Transistor, PNP, light switching Digital output 2: Transistor, NPN, dark switching Connection: Connector, M12, metal Number of pins: 5 pcs Design, housing: cubic Dimensions: 15 mm x 48 mm x 38 mm Housing material: metal Operational control: Multiturn potentiometer Protection class: IP 67, IP 69K Special design: autocollimation





### 3.7 Diffuse sensors with background suppression


Diffuse sensors with background suppression		
Part no.	Article	Article description
50129540	HT10L1.3/L66-M12  	<p>Operating range: 0,05 ... 3,5 m            Light source: Laser, red            Laser protection class: 1            Switching frequency: 40 Hz            Supply voltage: 18 ... 30 V, DC            Number of outputs: 3 pcs            output 1: Transistor, Push-Pull            output 2: Transistor, Push-Pull            output 3: Transistor, Push-Pull            Connection: Connector, M12, Plastic            Number of pins: 5 pcs            Design, housing: cubic            Dimensions: 25 mm x 65 mm x 55 mm            Protection class: IP 67</p>


### 3.8 Inductive switches

Inductive switches IS 244		
Part no.	Article	Article description
50114213	ISS 244PP/44-20E-TB.4 	Typ. operating range limit Sn: 20 mm Operating range Sa: 0 ... 16,2 mm Switching frequency: 150 Hz Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 St. Digital output 1: Transistor, PNP, Normally open (NO) Digital output 2: Transistor, PNP, Normally closed (NC) Connection: Terminal Number of pins: 4 pcs Design, housing: cubic Dimensions: 40 mm x 40 mm x 118 mm Type of installation: Embedded Housing material: Plastic Certifications: CE, c UL US
50114214	ISS 244PP/44-40N-TB.4 	Typ. operating range limit Sn: 40 mm Operating range Sa: 0 ... 32,4 mm Switching frequency: 150 Hz Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 St. Digital output 1: Transistor, PNP, Normally open (NO) Digital output 2: Transistor, PNP, Normally closed (NC) Connection: Terminal Number of pins: 4 pcs Design, housing: cubic Dimensions: 40 mm x 40 mm x 118 mm Type of installation: non-embedded Housing material: Plastic Certifications: CE, c UL US



### 3.9 Stationary barcode reader

Stationary barcode reader BCL 2x		
Part no.	Article	Article description
50032047	BCL 21 S M 310 	Scanning rate, typical: 1.000 scans/s Reading distance: 50 ... 260 mm Reading method: Line scanner with deflecting mirror Light beam exit: Lateral with deflecting mirror Supply voltage: 10 ... 30 V, DC Number of digital outputs: 1 St. Type of interface: RS 485 Type of display: LED Ambient temperature, operation: 0 ... 40 °C Certifications: c UL US Functions: AutoConfig, Alignment mode, Reference code comparison, Reading gate control, I/O, LED indicator, Multiple read / MultiScan
50032114	BCL 22 R1 F 210 	Scanning rate, typical: 800 scans/s Reading distance: 80 ... 450 mm Reading method: Raster scanner with deflecting mirror Light beam exit: Lateral with deflecting mirror Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 St. Type of interface: RS 232 Type of display: LED Ambient temperature, operation: 0 ... 40 °C Certifications: CDRH, c UL US, CE Functions: AutoConfig, Justage Mode, Reference code comparison, Reading gate control, I/O, multiple reading / Multiscan, LED-display

Stationary barcode reader BCL 3xx	
Part no.	Article description
<p><b>BCL 3xxi</b>  <b>442 different types available*</b></p>  <p><i>*(depending on interface, reading method and version)</i></p>	<p>Beam exit: front / Line, side / Oscillating-mirror, Deflecting mirror / side</p> <p>Typical Scanning rate: 1.000 Scans/s</p> <p>Reading distance min. / max (depending on modul size): 50 – 680 mm</p> <p>Min. modul size: 0,127 mm</p> <p>Operating temperature (without heating): 0 ... 40°C</p> <p>Operating temperature (with heating): -35 ... 40°C</p> <p>Interfaces: PROFIBUS, PROFINET IO/RT, Ethernet TCP/IP, UDP, Ethernet IP, EtherCAT, multinet, RS 232, RS 422, RS 485</p> <p>Type of connection: Plug connector</p> <p>Protection class: IP 65</p>


Stationary barcode reader BCL 5xx	
Part no.	Article description
<p><b>BCL 5xxi</b>  <b>124 different types available*</b></p>  <p><i>*(depending on interface, reading method and version)</i></p>	<p>Beam exit: front / Line, side / Oscillating-mirror</p> <p>Typical Scanning rate: 800 / 1.000 Scans/s</p> <p>Reading distance min. / max (depending on modul size): 200 – 2.400mm</p> <p>Min. modul size: 0,25 mm</p> <p>Operating temperature (without heating): 0 ... 40°C</p> <p>Operating temperature (with heating): -30 ... 40°C</p> <p>Interfaces: PROFIBUS, PROFINET IO/RT, Ethernet TCP/IP, UDP, Ethernet IP, EtherCAT, Multinet, RS 232, RS 422, RS 485</p> <p>Type of connection: M12</p> <p>Protections class: IP 65</p>

**Accessoires barcode readers**


Part no.	Article	Article description
50027375	BT 56 	Suitable for: BCL 5xxi series bar code readers, LSIS 4xxi series stationary 2D-code readers, BCL 3xxi series bar code readers, BCL 3xxi series bar code reader, deflecting mirror, BPS 300i series bar code positioning system, LxS light section sensors Type of fastening, at system: For 16 mm rod, For 18 mm rod, For 20 mm rod Type of fastening, at device: Clampable Material: metal Tightening torque of the clamping jaws: 8 N·m Functions: Static applications
50121435	BT 56-1 	Suitable for: BCL 3xxi series bar code readers, BCL 5xxi series bar code readers, LSIS 4xxi series stationary 2D-code readers, BPS 300i series bar code positioning system, LxS light section sensors, BCL 3xxi series bar code readers Type of fastening, at system: For 12 mm rod, For 14 mm rod, For 16 mm rod Type of fastening, at device: Clampable Material: metal Tightening torque of the clamping jaws: 8 N·m Functions: Static applications









### 3.10 Stationary 1D- und 2D-Code readers

Stationary 1D- und 2D-Code readers DCR 200i	
Part no.	Article description
<p><b>DCR 2xxi</b> <b>56 different types available*</b></p>  <p><i>*(depending on interface, housing, optic)</i></p>	<p>Reading distance: 40 – 800 mm (depending on optic)            Min. modul size: 0,1 mm            Operating temperature (without heating): 0 ... 50°C            Operating temperature (with heating): -30 ... 50°C            Interfaces: PROFINET IO/RT, Ethernet TCP/IP, UDP, RS 232, RS 422            Type of connection: M12            Protection class: IP 65</p>



### 3.11 Optical distance sensors

Optical distance sensors ODSL		
Part no.	Article	Article description
50040720	<p>ODSL 30/24-30M-S12</p> 	<p>Type of scanning system: Against object            Light source: Laser, red            Light spot size: 6 mm            Measurement range: 0 ... 30.000 mm            Geometric resolution: 1,0 mm            Supply voltage: 10 ... 30 V, DC            Number of digital outputs: 3 St.            Connection: Connector, M12            Number of pins: 8 St.            Operational controls: Membrane keyboard, LC-Display            Delivery includes:            Mounting bracket</p>

Optical distance sensors ODSL		
Part no.	Article	Article description
50041203	ODSL 30/D232-30M-S12 	Type of scanning system: Against object Light source: Laser, red Light spot size: 6 mm Measurement range: 0 ... 65.000 mm Geometric resolution: 1,0 mm Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 St. Type of interface: RS 232 Connection: Connector, M12 Number of pins: 8 pcs Operational controls: Membrane keyboard, LC-Display Delivery includes: Mounting bracket
50106729	ODSL 96B M/V6.S-800-S12 	Type of scanning system: Against object Light source: Laser, red Light spot size: 1 mm Measurement range: 150 ... 800 mm Geometric resolution: 0,1 ... 0,8 mm Measurement accuracy: 1,5 % Supply voltage: 18 ... 30 V, DC Number of analog outputs: 1 pcs Number of digital outputs: 1 pcs Output: Voltage Connection: Connector, M12 Number of pins: 5 pcs Operational controls: Membrane keyboard, PC-Software Special design: small light spot (S)
50101882	ODSL 96K/66-2300-S12 	Type of scanning system: Against object Light source: Laser, red Light spot size: 3 mm x 8 mm Measurement range: 150 ... 2.300 mm Geometric resolution: 1,0 ... 5,0 mm Measurement accuracy: 3 % Supply voltage: 10 ... 30 V, DC Number of digital outputs: 2 pcs Connection: Connector, M12 Number of pins: 5 pcs Operational controls: Teach button

Optical distance sensors AMS 3xx		
Part no.	Article	Article description
50113661	AMS 300i-40 	Light source: Laser Measurement range: 200 ... 40.000 mm Absolute measurement accuracy: 2 mm Reproducibility (1 Sigma): 0,3 mm Max. traverse rate: 10 m/s Supply voltage: 18 ... 30 V, DC Type of interface: RS 232, RS 422 Connection: Connector, M12 Housing material: metal Type of display: LC-Display, LED Ambiente temperature, operation: -5 ... 50 °C Protection class: IP 65 NOTE: Reflective type must be ordered separately
50113678	AMS 304i 120 	Light source: Laser Measurement range: 200 ... 120.000 mm Absolute measurement accuracy: 2 mm Reproducibility (1 Sigma): 0,5 mm Max. traverse rate: 10 m/s Supply voltage: 18 ... 30 V, DC Type of interface: PROFIBUS DP, SSI Connection: Connector, M12 Housing material: Metall Type of display: LC-Display, LED Ambiente temperature, operation: -5 ... 50 °C Protection class: IP 65 NOTE: Reflective type must be ordered separately
50113662	AMS 300i 120 	Light source: Laser Measurement range: 200 ... 120.000 mm Absolute measurement accuracy: 2 mm Reproducibility (1 Sigma): 0,5 mm Max. traverse rate: 10 m/s Supply voltage: 18 ... 30 V, DC Type of interface: RS 232, RS 422 Connection: Connector, M12 Housing material: metal Type of display: LC-Display, LED Ambiente temperautre, operation: -5 ... 50 °C Protection class: IP 65 NOTE: Reflective type must be ordered separately



**Optical distance sensors AMS 3xx**

Part no.	Article	Article description
50113663	AMS 300i 200 	Light source: Laser Measurement range: 200 ... 200.000 mm Absolute measurement accuracy: 3 mm Reproducibility (1 Sigma): 0,7 mm Max. traverse rate: 10 m/s Supply voltage: 18 ... 30 V, DC Type of interface: RS 232, RS 422 Connection: Connector, M12 Housing material: metal Type of display: LC-Display, LED Ambient temperature, operation: -5 ... 50 °C Protection class: IP 65 NOTE: Reflective type must be ordered separately
50113669	AMS 301i 40 	Light source: Laser Measurement range: 200 ... 40.000 mm Absolute measurement accuracy: 2 mm Reproducibility (1 Sigma): 0,3 mm Max. traverse rate: 10 m/s Supply voltage: 18 ... 30 V, DC Type of interface: RS 485 Connection: Connector, M12 Housing material: metal Type of display: LC-Display, LED Ambient temperature, operation: -5 ... 50 °C Protection class: IP 65 NOTE: Reflective type must be ordered separately


### 3.12 Optical data transmission

Optical data transmission DDLS 2xx		
Part no.	Article	Article description
50036290	DDLS 200/120.1-20 	Working range: 200 ... 120.000 mm Usable opening angle, transmitter: 1 ° Supply voltage: 18 ... 30 V, DC Type of interface: RS 422, Interbus-S Interbus-S, transmission speed: 2 Mbit/s Connection: Terminal, M16 Ambient temperature, operation: -5 ... 50 °C Protection class: IP 65
50036291	DDLS 200/120.2-20 	Working range: 200 ... 120.000 mm Usable opening angle, transmitter: 1 Supply voltage: 18 ... 30 V, DC Type of interface: RS 422, Interbus-S Interbus-S, transmission speed: 2 Mbit/s Connection: Terminal, M16 Ambient temperature, operation: -5 ... 50 °C Protection class: IP 65
50039937	DDLS 200/120.1-50 	Working range: 200 ... 120.000 mm Useable opening angle, transmitter: 1 ° Supply voltage: 18 ... 30 V, DC Type of interface: CANopen, DeviceNet CANopen, transmission speed: 10 ... 1.000 DeviceNet, transmission speed: 125 ... 500 kBit/s Connection: Terminal, M16 Ambient temperature, operation: -5 ... 50 °C Protection class: IP 65
50039938	DDLS 200/120.2-50 	Working range: 200 ... 120.000 mm Usable opening angle, transmitter: 1 ° Supply voltage: 18 ... 30 V, DC Type of interface: CANopen, DeviceNet CANopen, transmission speed: 10 ... 1.000 DeviceNet, transmission speed: 125 ... 500 kBit/s Connection: Terminal, M16 Ambient temperature, operation: -5 ... 50 °C Protection class: IP 65

**Optical data transmission DDLS 2xx**


Part no.	Article	Article description
50039704	DDLS 200/30.1-10-W 	Working range: 200 ... 30.000 mm Usable opening angle, transmitter: 3 ° Supply voltage: 18 ... 30 V, DC Type of interface: PROFIBUS DP, RS 485 Profibus DP, transmission speed: 0,0096 ... 1,5 Mbps Connection: Terminal, M16 Ambiente temperature, operations: -5 ... 50 °C Protection class: IP 65 Special design: Wide angle version
50039705	DDLS 200/30.2-10-W 	Working range: 200 ... 30.000 mm Usable opening angle, transmitter: 3 ° Supply voltage: 18 ... 30 V, DC Type of interface: PROFIBUS DP, RS 485 Profibus DP, transmission speed: 0,0096 ... 1,5 Mbps Connection: Terminal, M16 Ambiente temperature, operation: -5 ... 50 °C Protection class: IP 65 Special design: Wide angle version

**Optical data transmission for Industrial Ethernet DDLS 500(i)**

Part no.	Article description
<b>DDLS 500(i)</b> <b>128 different types available*</b>  <i>*depending on Option</i>	Transmission speed:100 Mbit/s Parallel transmission of different Ethernet protocols Working range: 0,1m ... 200m Metal housing with protective glass in front of the optic Integrated alignment device Power LED for diagnosis from big distance Display of the devices status over integrated panel Protection class: IP67 *Options <ul style="list-style-type: none"> <li>- Integrated laser pointer for easy mounting</li> <li>- Integrated webserver for remote diagnosis</li> <li>- DDLS 500 as Profinet Participant/Slave</li> <li>- DDLS 500 for the transmission of EtherCAT</li> <li>- Integrated heating for operating temperatures till -35°C</li> </ul>



### 3.13 Accessories

Accessories		
Part no.	Article	Article description
580025	ASM1E/2-01 	SIL: 3, IEC 61508 Performance Level (PL): e, EN ISO 13849-1 Category: 4, EN ISO 13849 STOP Category: 0 und 1, IEC/EN 60204-1 Supply voltage: 24 V, DC, -15 ... 15 % Number of safety outputs (OSSDs): 2 pcs Dimensions: 45 mm x 105 mm x 120 mm Type of configuration: Software, Teach-in Certifications: AS-i, CE, c TÜV Rheinland US, TÜV Rheinland, c UL US Functions: Service button for manual error unlocking and automatic device swap-out of the safe AS-i slaves, Status LED display for AS-Interface communication, OSSD, start/restart interlock, protective mode, errors, System signal output, Programmable logic operators, system statuses, STOP 0 / STOP 1, Start/restart interlock (RES), selectable, Dynamic contactor monitoring (EDM), selectable, Monitoring modules with contact-simultaneity monitoring, Activation/deactivation of function modules, Support of AS-Interface A/B technology, Diagnostics data transfer via AS-Interface, Error unlocking via AS-Interface, Monitoring modules with contact bounce filter, Programmable logic operators, FLIP-FLOP, Programmable logic operators, switch on/off delay Number of configurable function modules: 48 pcs
50038538	KD 02-5-BA	Suitable for interfaces: PROFIBUS DP, MultiNet Plus Connection: Connector, M12, axial, female Number of pins: 5 St. Connector, Coding: B-Coded
50020501	KD 095-5A	Connection: Connector, M12, axial, female Number of pins: 5 St. Connector, Coding: A-Coded
50040155	KS 095-4A	Connection: Connector, M12, axial, male Number of pins: 4 St. Connector, Coding: A-Coded
429087	CB-M12-5000-5GF	Connection 1: Connector, M12, axial, female Number of pins: 5 St. Connector, Coding: A-Coded Connection 2: open end Shielded: No Cable length: 5.000 mm Sheathing material: PUR

<b>Accessories</b>		
<b>Part no.</b>	<b>Article</b>	<b>Article description</b>
429046	BT-2R1	Set mounting brackets Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Suitable for Safety light curtains MLC 500, MLC 300, Light curtains CML700i, Safety light curtains MLC 500, MLC 300
50109834	KDS BUS OUT M12-T-5P	Adapter Suitable for interfaces: MultiNet Plus, PROFIBUS DP
50038539	TS 02-4-SA	Terminator plug Suitable for interfaces: MultiNet Plus, PROFIBUS DP
50038538	KD 02-5-BA	Connector Suitable for interfaces: MultiNet Plus, PROFIBUS DP
50130851	KD U-M8-4A- V1-100	Connection 1: Connector, M8, axial, female Number of pins: 4 St. Connection 2: Open end Shielded: NO Cable length: 10.000 mm Sheathing material: PVC
50131460	Cover DCR 200i-P	Cover hood Suitable for stationary 2D-Codereaders Serie DCR 200i
50132150	BTU 320M-D12	Mounting system Contains 4 pcs screws M4 x 6 Suitable for stationary 2D-Codereaders DCR 200i
50134943	KD S-M12-CW- P1-050	Connection 1: Connector, M12, angled, female Number of pins: 12 St. Coding: A-Coded Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR