












**LioN-Power Distributed Control Unit – LDmicro (Ladder Logic)**

Product Description	
Type	0980 ESL 393-121-DCU1
	<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;">   </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="text-align: right; margin-top: 10px;">      </div>
Description	LioN-P Distributed Control Unit, LDmicro Programmable (Ladder), Multi-protocol (PROFINET, EtherNet/IP or EtherCAT device), 8 digital input and 8 digital output channels with galvanic isolation, M12 LAN connection, 4-poles, D-coded, M12 L-coded power supply, 5-poles
Order No.	934879005
Technical Data	
Protection Degree	IP65, IP67, IP69K (only if mounted and locked in combination with Hirschmann/Lumberg connector)
Ambient Temperature (Operation)	-20 °C to +70 °C
Dimensions (W x H x D)	59.6 x 30.7 x 200 (mm)
Weight	500 g
Housing Material	Metal, Zinc Die-cast
Control System	
Programming Tool	Ldmicro: Ladder programming tool (LAD)
Programming Language	LAD: Ladder Logic
Program Deployment	via Webserver
Realtime Clock	No
Performance	min. 10 ms
Program Memory	max. 99 Rungs/max. 99 Bit Variables/max. 99 Integer Variables
Flash Memory	16 MB
Persistent Memory	No
Processor	200 MHz RISC CPU
Operation Modes	Standalone, Slave/Device, Mixed
Communication Interfaces	Ethernet/TCP
Webserver	Integrated
Bus System	
Protocol	PROFINET /EtherNet/IP/EtherCAT I/O Device
Connection	M12 LAN connection, 4-poles, D-coded
Transmission Rate	Fast Ethernet (10/100 Mbit/s), Full Duplex
Rotary Address Switches	Yes, 3x
Power Supply	
Nominal Voltage	24 V DC (SELV/PELV)
Nominal Voltage Range	18 to 30 V DC
Connection	M12, L-coded, 5-poles
Current Carrying Capacity of Connector	16 A
Current Consumption (typ.)	160 mA (+/-20% at 24 V DC)
On-Board Input Channels	
Number of Channels	8
Connection	M12, 5-poles, A-coded
Channel Type	Type 3 acc. to IEC 61131-2
Nominal Voltage	24 V DC via US (system power supply)
Sensor Current Supply	200 mA per Port
Sensor Type	PNP
On-Board Output Channels	
Number of Channels	8
Connection	M12, 5-poles, A-coded
Channel Type	p-switching
Nominal Voltage	24 V DC via Uaux (actuator power supply)
Output Current per Channel	max. 2 A
Output Current per Module	max. 9 A
Protective Circuit	Electronically: Overload protection, short-circuit protection
Galvanically Isolated	Yes

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### Diagnostic Indication | 0980 ESL 393-121-DCU1

LED	Indicator	Condition
1...8 A	Yellow	Channel status
1...8 DIA A	Red	Periphery error
1...8 B	White	Channel status
1...8 DIA B	Red	Periphery error
P1 Lnk/Act	Green Green blinking Off	Connection to an Ethernet device I/O device exchanging data No connection to another device
P2 Lnk/Act	Green Yellow blinking Off	Connection to an Ethernet device I/O device exchanging data No connection to another device
BF	Red Off	Bus error, no data exchange with I/O controller No error message
DIA	Red Red blinking Off	Common indicator for periphery errors Firmware update No error message
MS (Module status)	Green Green blinking Red/green blinking Red blinking Off	Device is ready for operating Wrong configuration Self test is running Firmware update IP address is available
NS (Network status)	Green blinking Green Red blinking Red Red/green blinking Off	IP address is available Connection to master is available At least one connection has timed out IP address is already being used by another device Self test is running Device is switched off/device has no IP address
<b>EtherCAT</b>		
RUN	Green	Device is in state OPERATIONAL
	Green blinking	Device is in state PRE-OPERATIONAL
	Green single flash	Device is in state SAFE-OPERATIONAL
	Green flickerng	Device is in state BOOTSTRAP
	Off	Device is in state INIT
ERR	Red	"An critical communication or application controller error has occurred "
	Red double flash	An application watchdog timeout has occurred.
	Red single flash	"Slave device application has changed the EtherCAT state autonomously, due to local error"
	Red blinking	General Configuration Error
	Red flickering	Booting Error was detected
FM	Blue/red blinking Red blinking Off	Force mode is activated Failsafe is activated Force mode not active/DCU program passed
DCU	Blue blinking Blue Red Off	Device is operating in DCU mode (RUN) Device has stopped DCU mode (STOP) Device has detected a program error (ERROR) Device is operating in I/O mode (OFF)
Us	Green Red	Voltage $19\text{ V} \leq U_s \leq 30\text{ V}$ $U_s \text{ Voltage} < 19\text{ V}$ or $U_s > 30\text{ V}$
Ul	Green Red	Voltage $19\text{ V} \leq U_l \leq 30\text{ V}$ $U_l \text{ Voltage} < 19\text{ V}$ or $U_l > 30\text{ V}$



### Pin Assignment

M12 I/O Port, A-coded	M12 Power Supply, L-coded	M12 LAN Connection, D-coded
 <ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN B</li> <li>3 = GND (0 V)</li> <li>4 = IN A</li> <li>5 = FE</li> </ul>	 <ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = GND Ul</li> <li>3 = GND (0 V)</li> <li>4 = +24 V Ul</li> <li>5 = FE</li> </ul>	 <ul style="list-style-type: none"> <li>1 = TD+</li> <li>2 = RD+</li> <li>3 = TD-</li> <li>4 = RD-</li> </ul>
		

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**Technical Drawing**

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