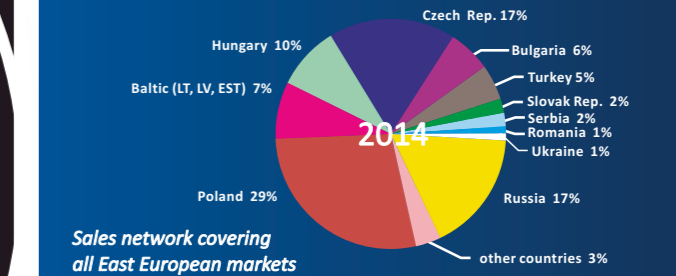


Leading in Eastern Europe as technical broadline distributor of electronic components, logistic provider and always reliable partner for suppliers and customers.

MICRODIS BUSINESS MODEL

- Franchise Distribution for a selected number of manufacturers
- Special Mass Market Distribution by Internet and Catalogue
- Network Partnership with suppliers and customers



ADVANCED EDI SYSTEM

- Access to components base with individual, quantity dependent, pricing
- Stock information
- Downloadable file with components base
- On-line ordering
- Order status and order/invoice history information
- Individual account for each employee

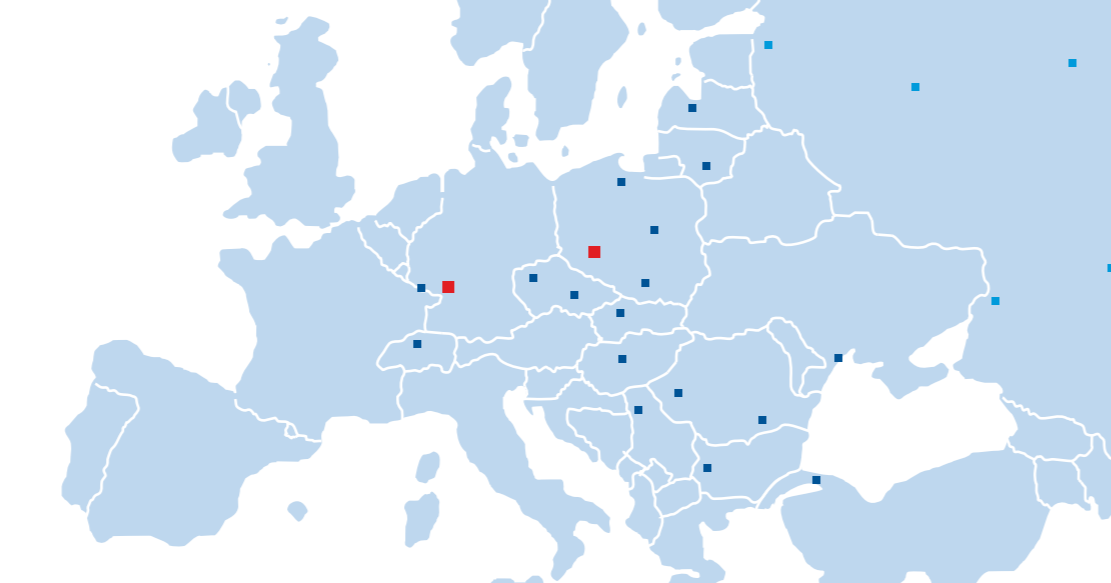


DEVELOPMENT STEPS OF THE MICRODIS ELECTRONICS GROUP

- 1989** Foundation of the companies in Hungary and Germany
- 1990 Foundation of sales companies in Poland and Slovakia
First deliveries to the industry
 - 1992 Foundation of LSB Electronics later renamed to Microdis Plus Poland
Restructuring from retail to distribution
 - 1993 Foundation of Microdis KFT in Hungary
 - 1995 Consolidation of all companies within the Eurodis Microdis Holding AG in Switzerland (60% Eurodis [later Eurodis Electron PLC] and 40% Microdis)
Foundation of a subsidiary in Czech Republic
 - 2000 Europartners Consultants proclaimed Eurodis Microdis No. 1 in Poland and No. 3 in Hungary. Start of catalogue distribution
 - 2003 Microdis sells its 40% shares of the Eurodis Microdis Electronics AG to Eurodis Electron PLC and takes over entirely Eurodis Microdis Electronics in Germany
 - 2006 Microdis obtained ISO 9001:2000 Certification
 - 2007 Foundation of Microdis in Ukraine
 - 2008 Foundation of Microdis in Latvia
 - 2009 Foundation of Microdis in Bulgaria
 - 2010 Microdis Group obtained ISO 9001/2008 Certification
 - 2011 Foundation of Microdis Components Elektronik in Turkey (Istanbul)
 - 2012 Logistic Center moved to the acquired building in Hockenheim, Germany
 - 2013 Inauguration of Electromechanical Competence Center for France, in Sarrebruck
 - 2014 25 years of Microdis' Innovation and Reliability on the market



Microdis
Innovation & Reliability



- | | | | | | |
|--|-------------------|--|--|------------------------|--|
| | Bulgaria | Bulgaria@microdis.net | | Romania | Romania@microdis.net |
| | Croatia | Croatia@microdis.net | | Russia | Russia@microdis.net |
| | Czech Rep. | Czech@microdis.net | | Serbia | Serbia@microdis.net |
| | Estonia | Estonia@microdis.net | | Slovak Rep. | Slovakia@microdis.net |
| | France* | France@microdis.net | | Slovenia | Slovenia@microdis.net |
| | Hungary | Hungary@microdis.net | | Turkey | Turkey@microdis.net |
| | Latvia | Latvia@microdis.net | | Ukraine | Ukraine@microdis.net |
| | Lithuania | Lithuania@microdis.net | | Other countries | microdis.de@microdis.net |
| | Poland | Poland@microdis.net | | | |

*Electromechanical Competence Center for France



Automotive connectors
RAST connectors 2.5 and 5.0
Chain terminals 2.8-4.8-6.3-7.7-9.3mm
Ring tongue and other solderless terminals and splices
Tools

HARNES MAKING, ASSEMBLING, MACHINES AND TOOLS

Harness making

Crimping all typical connectors, half or full automatic process
Cutting and stripping from AWG32(0,05 mm²) up to AWG8 (8,00 mm²)
Lead free tin plating

Machines for:
Benchtop Crimping & Stripping
Cutting to Length & Stripping
Full Process Crimping
Marking
Prefeeding
Coiling/Collection
Spare parts



Applicators

Presses for all types of connectors

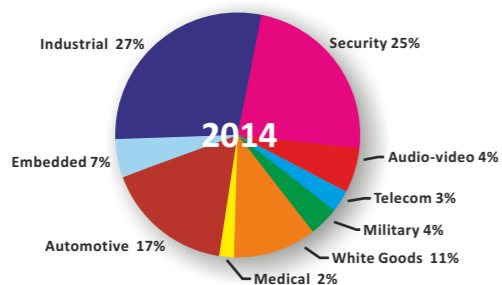
Other tools & applicators for RAST connectors
Applicators for: JST, LEAR, TYCO, JAE, FCI
Testing tools

Hand tools for crimping



SERVICES FOR OEMS AND CEMS IN EASTERN EUROPE

- Design-in support - well trained engineers are providing high quality service
- Sample supply and product info - high level and many years of experience
- Trainings - common actions with our franchise partners
- Programming of oscillators, ICs, etc
- Harness making according to specification
- Supply of more than 500 000 components
- Access to more than 100 suppliers
- EDI, e-commerce on www.microdis.net
- Online Order Tracking
- Consignment stock: central as well as local possibilities



Long-term cooperation with customers covering all industrial segments

Supply of small quantities by catalogue distribution

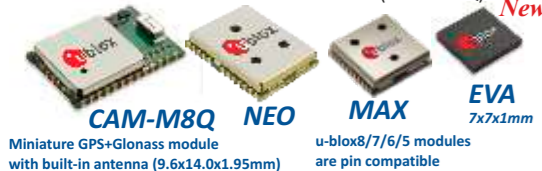
WIRELESS TECHNOLOGY



locate, communicate, accelerate



State of the art GNSS modules based on the latest technology u-bloxM8 *New*
 Form factors: MAX, NEO, LEA, EVA, PAM, CAM
 Modules are qualified for in vehicle use (ISO16750)
 High performance GNSS receivers, sensitivity: -167dBm
 Flexible modes, fe: GPS, Glonass, GPS+Glonass parallel
 Extremely low power: 4.5mA/3V (fix GPS every 1s)
 Position accuracy (CEP, SBAS): 2.0m
 Built in active antenna support (power, monitor)
 High in-band jamming immunity, Jammer detection
 Assisted GNSS: GPS as well as Glonass supported
 AssistNow Online, Offline and Autonomous modes
 Direct cooperation with GSM/UMTS modules
 PPP support – accuracy better than 1.0m (2D,R50)
 Modules with built in sensors (gyroscope, accelerometer)
 Dedicated modules for timing, RAW data
 Miniature modules with built-in antenna (CAM-M8Q)



WIRELESS ACCESSORIES

GSM, GPS, GLONASS, Iridium, WiFi, ISM antennas
 Helical GPS & GLONASS antennas
 L1 & L2 band antennas
 HF connectors, adapter cables
 Evaluation kits and software



Reliable, field proven GPS/Glonass/BeiDou/QZSS and GSM/UMTS/LTE modules

High performance GSM, UMTS, CDMA, LTE modules
 Navigation without GPS, based on GSM network
 eCall ready products with in-band modem
 Wide temperature range -40°C to +85°C



Field proven GSM/GPRS modules, families: LEON, SARA

LEON-G1, SARA-G3 - GSM/GPRS modules
 Embedded TCP/UDP/IP, FTP/HTTP/SMTP stack
 ATEX certificate to be used in explosive environments
 Low cost versions (2 GSM bands)
 Low power consumption (<0.9mA idle, 2.9mA active mode)
 Built-in Assisted GNSS client to support GNSS modules
 Multiple socket & IP addresses
 DTMF support, SIM card detection
 Small form factor 16.0x26.0x3.0mm
 One PCB design for GSM and UMTS modules
 Simple integration with u-blox® GNSS modules

SARA-U2 family of compact GSM/UMTS/HSPA modules
 Form factor as small as 16.0x26.0x3.0mm
 Pin compatible to GSM/GPRS module SARA-G3
 Low cost version available (UMTS only, no GSM support)
 Low power consumption

LISA-U2 GSM/UMTS/HSPA+ modules
 HSDPA (21.1Mb/s), HSUPA (5.76Mb/s)
 Worldwide module
 All 3G (six) and 2G (four) bands support
 3G:
 800/850/900/1700/1900/2100MHz
 USB 2.0, SPI, UART

TOBY/MPCI - LTE modules
 TOBY-L2/MPCI-L2: GSM/GPRS/HSPA+/LTE
 Up to 150Mb/s data rate
 Voice over LTE

Nested design available at u-blox, SARA, LISA or TOBY can be alternatively mounted on the same PCB

The use of u-blox modules does not lead to consequences from infringement of patents and copyrights.

ISM PRODUCTS

Wireless M-Bus modules and devices
 868MHz and 169MHz
 for metering applications
6LoWPAN modules
 Mesh network modules for IoT

Modules, Modems & USB Dongles
 for 868MHz, 169MHz, 2.4MHz
Certified industrial Bluetooth modules and Stacks
 BT 2.1, 3.0 and BT 4.1 (BLE), Class 1 & 2,
 also dedicated modules for medical applications (HDP compliant with IEEE 11073)

Wi-Fi modules
 Compact (15x26x4mm), low power AMBW020 module with integrated IPv4&IPv6 stacks
Multiradio modules
 Wi-Fi, Classic BT and BT 4.0 (BLE) combined in one module
 Wi-Fi (a/b/g/n/ac), Classic BT, BT 4.1 & NFC in one module



ISO Cards, Key Fobs, Wrist Bands, PET laminates
 RFID system solutions for: Access control, Animal identification (Pet, bird and livestock), Industry and logistic (also KEG and waste ID)

Reliable interconnect products
 SIM / Nano SIM / Pico SIM connectors
 Memory Card Connectors
 USB Connectors
 Board to board connectors
 FFC connectors
 Dedicated white connectors for LED boards



INDUSTRIAL COMPUTING PRODUCTS



In-vehicle computers and displays
 Wireless communication: GPS, GSM, WLAN
 Flexible ignition control, easy adoption to car power-systems
 High vibration resistance, wide operating temperature
 Additional IP65 housing

Full HD Digital Signage Solutions
 Wide range of industrial players designed for 24/7 operation
 Perfect graphic performance, various video outputs
 Single, dual, triple and quad display possibility

Panel PCs and fanless box computers for automation industry
 Compact sizes, low power consumption
 Many options of I/O interfaces, high reliability
 Embedded OS, watchdog built-in, long life



IP67 Panel PCs, Industrial displays, Embedded boards
 Fanless with Intel, VIA and AMD CPUs, RISC
 Different form factors: FSB, HSB, 3.5", 5.25", PC/104
 EPIC, ETX, ITX, XTX, COM, Qseven



32 - 65" Large Format Displays with Touchscreen
 Fanless, great viewing angles and exceptional color clarity, wide range of video and audio inputs, dedicated space for multimedia player mounting at the rear

SEMICONDUCTORS

LIGHTING PRODUCTS

SEOUL SEMICONDUCTOR

ACRICH2 - supplied directly from 230VAC. Luminous flux of one module up to 1450lm (17.5W), and up to 140lm/W efficacy (10W module)
STREETLIGHT ACRICH3 MODULES - cost effective ready modules with 3000lm, AC driven in IP67 casing



Z-POWER LED - super bright power LEDs. Efficacy up to 160lm/W
SIDE, TOP, CHIP, LAMP - available as through hole and SMD, ultrabright, multicolor, full-color (RGB), efficacy of 5630D LED up to 200lm/W (@65mA)



COB - from 4W up to 100W standard sized modules, with up to 11800lm per array, and 149lm/W
MJT (Multi Junction Technology) - HV LEDs for ease of design, cost effective mid-power (i.e. 5630) and high power (i.e.5050) packages available

Japanese Power LEDs, SMD and THT
 155lm/W with CCT 5000K
 Power LEDs with high CRI (up to 95)
 LEDs for automotive market, IR LEDs

Taiwanese cost-effective LEDs
 Wide portfolio of signalling LEDs
 Double color (warm + cool) power LEDs
 Standard form factors
 Aluminium and ceramic COBs
 Power LED matrix modules
 Ready modules

Customized solutions
 LED modules: square and round modules in different sizes
 LED strips
Acrich modules
 Lighttubes

Design support and contract manufacturing



TAIWAN SEMICONDUCTOR

High quality semiconductors
 Transient Voltage Suppressors
 Zener and switching diodes
 Rectifier diodes
 Rectifier bridges
 Linear and switching voltage regulators
 Amplifiers and comparators
 Voltage references
Industry standards:
 78(9)xx, 78(9)Lxx, LM317, LM339, LM358, LM431, LM810, SMAJ, SMBJ, SMCJ, P4KE, P6KE, 1.5KE, BAV, BAS, BAT and many others

EPSON
 EXCEED YOUR VISION

Timing and Sensing quartz based devices
Crystal units
 kHz Range
 MHz Range
 SAW Resonators

Oscillators
 SPXO kHz & MHz range
 TCXO
 VCXO
 SAW Oscillators

SAW Filters

RTC Modules

Gyro sensors

Available within 24h from stock!

QUARTZ+MEMS
 High accuracy and high stability

QMEMS is a combination of 'Quartz', a crystal material with excellent characteristics such as high stability and high precision, and "MEMS" (a microfabrication technology). To a semiconductor MEMS material, EPSON applies precision microprocessing based on quartz material to create a quartz device called 'QMEMS' which offers high performance in a compact package.

ELECTROMECHANICAL



Push-pull circular connectors and cable assembly solutions

Generic connectors
 Core Series – Brass connectors
 AluLite™ Series – Aluminum connectors
 Plastic Series – Plastic connectors
Specific Connectors
 Nim-Camac – Coax and Triax Connectors
 Disposable – Low cost, high performance connectors
 SD/HD Camera connectors – Triax or Fiber Optic
 UtiMate™ - high performance military connectors



Wide range of electromechanical solutions
Tact Switches
 Snap-in types
 available in 4.5x4.5mm to 12x12mm sizes
 Surface Mount types
 available in 2.8x2.4mm to 10x10mm sizes
 Sharp and Soft feeling types
 Multiple operating force versions (stem color coding)
 Dust proof & water proof versions available

Encoders
 Rotary and slide potentiometers, industrial and pro-audio types available

Multicontrol Devices

Power Switches
 Memory and SIM card connectors also dedicated for automotive market

Detector switches
 Magnetic, MEMS and capacitive sensors

Thermal Printers



Terminal blocks
 SPRINGCON - spring type
 RIACON - screw type
 PLUGCON - pin strips
 IDCN - IDC - PCB connectors



Heatsinks
 Machined extruded heatsinks
 Heatsinks for LEDs
 Extruded heatsinks with retaining springs for PCB mounting
 Heatsinks and fan coolers for processors, PGA & BGA components
 Cooling aggregates
 Thermal conductive materials

Cases
 Miniature aluminum cases
 Combination cases
 Desk consoles and shell cases
 19" system cases

Connectors
 Hi precision board-to-board connectors
 IDC connectors
 D-SUB connectors
 DIL PGA, PLCC sockets

Services
 Precision CNC machining of heatsinks, cases, front panels
 Powder coating
 Screen printing
 YAG laser engraving