

# The scalable platform that fits all your needs



## MC75i, TC65i, and TC63i Wireless Modules

EDGE, GPRS, GSM, Java™, optimized size and performance (with an ARM9 processor), RLS Monitor (Jamming Detection) – these are just a few of the features offered by the MC75i, TC65i, and TC63i. Apart from the difference in lengths, the new platform's modules are compatible with the MC75, TC65, and TC63 modules. The three new modules share the same technology platform offering Quad-Band GSM, TCP/IP functionality, and M2M interfaces such as a serial or I<sup>2</sup>C bus. They also share the same size, mounting arrangement,

and command set, ensuring full compatibility. Designed to satisfy the needs of different M2M applications such as metering, security, and remote maintenance and control, each module's focus varies in terms of data transmission speed and the Java™ open platform. The feature rich platform affords you great flexibility, enabling you to respond to changing

demands simply by switching to another of the platform's modules. The hallmarks of this new platform include optimized performance, miniaturized dimensions, and enriched features. And with all this, it offers three topdrawer modules today that are ready to satisfy tomorrow's demands.



Quad-Band



TCP/IP



EDGE Class 12



Industrial Interfaces



GPRS Class 12



USB



JAVA™



RIL Driver



Powerful Processor  
Large Memory



SIM Access  
Profile



## *The scalable platform that fits all your needs MC75i, TC65i, and TC63i Wireless Modules*

### **MC75i Wireless Module – EDGE up your business**

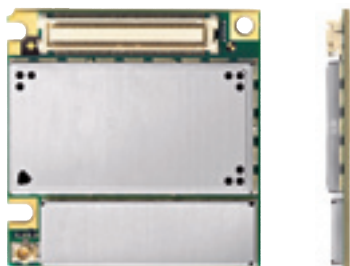
EDGE, short for Enhanced Data rates for GSM Evolution, is the fastest transmission standard in GSM networks. The MC75i lets you apply this technology wherever you wish to transmit certain data. Alongside this core technology, the MC75i comes with a TCP/IP stack, serial and USB ports, and a RIL driver for Microsoft® Windows Mobile™- based devices.

### **TC65i Wireless Module – The M2M application platform**

At the heart of the TC65i is the Java™ Virtual Machine, making it a high-performance, open-platform module. The powerful Java™ platform runs on the embedded hardware, like the ARM9 processor and the memory which is tuned and aligned to it. The TC65i leverages this platform-and-processor combination alongside GPRS technology, a TCP-IP stack, and an array of industrial interfaces such as SPI, I<sup>2</sup>C bus, AD/DA converter, and GPIOs to speed up time to market and cut development costs.

### **TC63i Wireless Module – Top-of-the-scale M2M connectivity**

The TC63i features GPRS class-12 functionality, an integrated TCP/IP stack, and comes without the onboard software developer platform. This makes it the perfect choice for M2M applications where a microcontroller is already available and only a high-performance wireless communications connection is needed. Rounding out the product platform, the TC63i embodies the grow-as-you-go benefits of this triple-module package: You can use it to satisfy basic GPRS needs, and as demand for EDGE technology grows, switch to the MC75i without investing money to redevelop the application.



Like all Cinterion modules, the MC75i, TC65i, and TC63i come with full type approval (FTA). They have also been approved by major network carriers around the world, including US operators.

*Global thinking,  
local understanding.*



U.K. ← Football → USA

### **Here, there and everywhere**

Global but local – Cinterion lives up to this motto! Not only are we present locally but we are also able to open up amazing global business perspectives for you! Find the details of your local Cinterion contact partner here: [www.cinterion.com](http://www.cinterion.com)

### **Technical Support**

Our application engineers support you from the design-in phase over the integration of the module into the application to the certification process.

### **We protect your business**

Profit from our strong Intellectual Property Rights position (IPR) – guarded by our legal professionalism you secure the fruits of your business effort.

	MC75i	TC65i	TC63i
<b>General features</b>			
Quad-Band GSM 850/900/1800/1900 MHz	•	•	•
EDGE (E-GPRS) multi-slot class 12	•		
GPRS multi-slot class 12	•	•	•
GSM release 99	•	•	•
Output power			
- Class 4 (2W) for EGSM850	•	•	•
- Class 4 (2 W) for EGSM900	•	•	•
- Class 1 (1 W) for GSM1800	•	•	•
- Class 1 (1 W) for GSM1900	•	•	•
Control via AT commands (Hayes 3GPP TS 27.007 and 27.005)	•	•	•
SIM Application Toolkit (release 99)	•	•	•
TCP/IP stack access via AT commands	•	•	•
Internet services: TCP, UDP, HTTP, FTP, SMTP, POP3	•	•	•
Supply voltage range: 3.2 ... 4.5 V	•	•	•
Charging control for Lithium batteries	•	•	•
Temperature range			
- Normal Operation: -30°C to +65°C	•	•	•
- Restricted Operation: -40°C to +75°C	•	•	•
- Switch off: +80°C	•	•	•
- Storage: -40°C to +85°C	•	•	•
Dimensions: 33,9 x 35 x 3,3 mm	•	•	•
Weight: 7.5 g	•	•	•
<b>Specification for EDGE data transmission</b>			
EDGE class 12: max. 236.8 kbps (DL and UL)	•		
Mobile station class B	•		
Modulation and coding schemes MCS 1-9	•		
<b>Specification for GPRS data transmission</b>			
GPRS class 12: max. 86 kbps (DL and UL)	•	•	•
Mobile station class B	•	•	•
PBCC support	•	•	•
Coding schemes CS 1-4	•	•	•
<b>Specification for CSD data transmission</b>			
Up to 14.4 kbps	•	•	•
V.110	•	•	•
Non-transparent mode	•	•	•
USSD support	•	•	•
<b>Specification for SMS</b>			
Point-to-point MO and MT	•	•	•
SMS cell broadcast	•	•	•
Text and PDU mode	•	•	•
<b>Specification for fax</b>			
Group 3, class 1	•	•	•
<b>Specification for voice</b>			
Triple-rate codec for HR, FR, and EFR	•	•	•
Adaptive multi-rate AMR	•	•	•
Basic hands-free operation	•	•	•
Echo cancellation	•	•	•
Noise reduction	•	•	•

	MC75i	TC65i	TC63i
<b>Java™ features</b>			
CLDC 1.1 HI		•	
Java™ profile IMP-NG		•	
Secure data transmission with HTTPS, SSL, and PKI		•	
<b>Open application resources</b>			
ARM9® Core, Blackfin® DSP		•	
Memory: 400 KB (RAM) and 1.7 MB (Flash)		•	
Improved power-saving modes		•	
<b>Over-the-air update</b>			
Application SW: OTAP		•	
Firmware: FOTA		•	
<b>Special features</b>			
RIL driver for Microsoft® Windows Mobile™ based devices	•		
Multiplex driver for Microsoft® Windows Mobile™	•		
Multiplex driver for Microsoft® Windows XP™ and Vista™	•	•	•
Character framing 7E1 and 8E1 at serial interface	•	•	•
Programmable module reset	•	•	•
SIM Access Profile integrated	•	•	•
RLS Monitor (Jamming Detection)	•	•	•
<b>Interfaces</b>			
Hirose U.FL-R-SMT 50 Ω antenna connector	•	•	•
Antenna solder pad	•	•	•
Molex 80-pin board-to-board connector	•	•	•
- Power supply	•	•	•
- Audio: 2 x analog, 1 x digital	•	•	•
- 2 x serial interfaces (ITU-T V.24 protocol)	•	•	•
- USB 2.0 full speed	•	•	•
- SIM card interface 3 V, 1.8 V	•	•	•
- I²C bus	•	•	•
- SPI bus	•	•	•
- 2 x analog in (ADC)		•	
- 1 x analog out (PWM)		•	
- Multiple GPIOs		•	
<b>Approvals</b>			
R&TTE, FCC, UL, IC, GCF, PTCRB, CE	•	•	•
Local approvals and network operator certifications	•	•	•

Cinterion Wireless Modules  
St-Martin-Str. 53  
81669 Munich, Germany

Further information about our  
products and services is also accessible  
via [www.cinterion.com](http://www.cinterion.com)

Java and the Java logo are registered  
trademarks of Sun Microsystems, Inc.  
in the United States and other countries.

The information provided in this brochure contains merely general descriptions or characteristics of performance, which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. All product designations may be trademarks or product names of Cinterion or supplier companies whose use by third parties for their own purposes could violate the rights of the owners. Java and the Java logo are registered trademarks of Sun Microsystems, Inc. in the United States and other countries.

[www.cinterion.com](http://www.cinterion.com)