

Modules and Terminals



Cinterion Product Portfolio

We are Experts in M2M

Cinterion is the worldwide leading supplier of cellular machine-to-machine (M2M) communication modules and combines unparalleled M2M engineering expertise and localized worldwide customer support with a strong portfolio of high-quality GSM, GPRS, EDGE, UMTS and HSPA products.

Cinterion is a reliable partner and valued by many vertical market customers for its award-winning modules which enable machines, equipment and vehicles to communicate over wireless networks helping enterprises dramatically cut costs and increase productivity and efficiency.

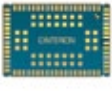
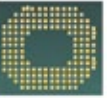
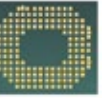
We deliver high-quality GSM/GPRS/EDGE and UMTS/HSPA modules and terminals, and provide leading-edge support for integration, all over the world. Our wireless modules are based on

the UMTS and/or GSM standard. This technology provides users with unlimited mobility due to worldwide coverage and the closely interwoven roaming network. The respective data standards, GPRS, EDGE and HSPA offer reliable data connections with high data rates enabling data centric applications.

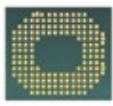
Our modules are readily customized to suit unique needs by combining them with other innovative features such as Java™, GPS, and SIM Access Profile. Full type approval (FTA) and local network operator certifications ensure all modules integrate easily into the GSM network. All products comply with ISO TS16949 quality benchmarks to deliver the high quality you have come to expect from Cinterion. What's more, we adhere to RoHS and WEEE environmental regulations for compliance with legislative directives.

Cinterion Wireless Modules Products

Product family	M2M Evolution						M2M Value
Product	MC75i	TC65i / TC65i-X	TC63i	EES3	EG55 / EG55-X	EG53	BGS3
	EDGE	Java™	GPRS	EDGE	Java™	GPRS	GPRS
							
Frequency range	QB GSM/GPRS EDGE	QB GSM/GPRS	QB GSM/GPRS	QB GSM/GPRS EDGE	QB GSM/GPRS	QB GSM/GPRS	QB GSM/GPRS
Embedded processing		Java™			Java™		
Extended memory		• (TC65i-X)			• (EG55-X)		
GPS, prepared for GLONASS							
Dimensions (in mm)	33.9 x 35 x 3.3	33.9 x 35 x 3.3	33.9 x 35 x 3.3	33.9 x 29.6 x 3.2	33.9 x 29.6 x 3.2	33.9 x 29.6 x 3.2	33.9 x 29.6 x 3.2
Temperature range	-40°C to +75°C	-40°C to +75°C	-40°C to +75°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Voice	•	•	•	•	•	•	•
Data Transmission							
HSPA							
UMTS							
CDMA							
EDGE	Class 12			Class 12			
GPRS	Class 12	Class 12	Class 12	Class 12	Class 12	Class 12	Class 10
CSD	•	•	•	•	•	•	•
SMS	•	•	•	•	•	•	•
Fax	•	•	•	•	•	•	•
TCP/IP connectivity	•	•	•	•	•	•	•
Prepared for eCall / ERA GLONASS							
Interfaces							
Antenna connector	U.FL-R-SMT	U.FL-R-SMT	U.FL-R-SMT	via LGA pad	via LGA pad	via LGA pad	via LGA pad
Antenna solder pad	•	•	•				
Board-to-board connector	80-pin	80-pin	80-pin				
Surface mounting				LGA	LGA	LGA	LGA
Audio analog/digital	2x/1x	2x/1x	2x/1x	2x/1x	2x/1x	2x/1x	2x/1x
Serial interfaces	2x	2x	2x	2x	2x	2x	2x
USB	•	•	•	•	•	•	
I²C bus	•	•	•	•	•	•	
SPI bus	•	•	•	•	•	•	
ADC/DAC		2x/1x			2x/1x		
Dedicated multiple GPIO's (digital)		•			•		
Approvals							
R&TTE / GCF	•	•	•	•	•	•	•
FCC, UL, IC, PTCRB	•	•	•	•	•	•	•
CE	•	•	•	•	•	•	•
Local operator certifications	•	•	•	•	•	•	•
Automotive e-mark							
Special features							
Over-the-air update		•			•		
RLS-Monitor (Jamming Detection)	•	•	•	•	•	•	•
Advanced Temperature Management	•	•	•	•	•	•	•
NDIS driver							
RIL driver	•			•			•
Multiplex driver Microsoft® Windows	•	•	•	•	•	•	•
SIM Access Profile	•	•	•	•	•	•	
Advanced Automotive features							
IMDS listed & GADSL compliant							
Environmental regulations							
RoHS compliant	•	•	•	•	•	•	•
WEEE compliant							

Product family	M2M Value			M2M Advanced			
Product	MC55i-W	BG2	BGS2	EU3	PH8	PHS8	PXS8
	GPRS	GPRS	GPRS	HSDPA	HSPA+	HSPA+	CDMA / HSPA+
							
Frequency range	QB GSM/GPRS	QB (BG2-W) DB (BG2-E) GSM/GPRS	QB (BGS2-W) DB (BGS2-E) GSM/GPRS	TB 3G (EU3-P) DB 3G (EU3-E) DB 2G	FB 3G QB 2G	FB 3G QB 2G	FB 3G QB 2G DB CDMA2000
Embedded processing							
Extended memory							
GPS, prepared for GLONASS					•	•	•
Dimensions (in mm)	32.5 x 35 x 2.95	31 x 26.7 x 3	27.6 x 18.8 x 2.7	33.9 x 44.6 x 5	33.9 x 50 x 3.1	33 x 29 x 2	33 x 29 x 2
Temperature range	-40°C to +85°C*	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Voice	•	•	•	•	•	•	•
Data Transmission							
HSPA				HSDPA 3.6 Mbps	HSPA+ 14.4 Mbps	HSPA+ 14.4 Mbps	HSPA+ 14.4 Mbps
UMTS				•	•	•	•
CDMA							•
EDGE				Class 10	Class 12	Class 12	Class 12
GPRS	Class 10	Class 10/8	Class 10/8	Class 10	Class 12	Class 12	Class 12
CSD	•	•	•	•	•	•	•
SMS	•	•	•	•	•	•	•
Fax	•	•	•	•	•		
TCP/IP connectivity	•	•	•	•	•	•	
Prepared for eCall / ERA GLONASS							
Interfaces							
Antenna connector	U.FL-R-SMT		via LGA pads	U.FL-R-SMT	3 x U.FL-R-SMT	via LGA pads	via LGA pads
Antenna solder pad	•			•			
Board-to-board connector	50-pin	60-pin		80-pin	80-pin		
Surface mounting			LGA			LGA	LGA
Audio analog/digital	1x/1x	1x/-	1x/-	1x/1x	1x/1x	1x/1x	1x/1x
Serial interfaces	2x	2x	2x	1x	1x	1x	1x
USB				•	•	•	•
I ² C bus		•	•				
SPI bus							
ADC/DAC		1x/1x	1x/1x	1x/-			
Dedicated multiple GPIO's (digital)		•	•	•			
Approvals							
R&TTE / GCF	•	•	•	•	•	•	•
FCC, UL, IC, PTCRB	•	• (BG2-W)	• (BGS2-W)		•	•	•
CE	•	•	•	•	•	•	•
Local operator certifications	•	•	•	•	•	•	•
Automotive e-mark							
Special features							
Over-the-air update							
RLS-Monitor (Jamming Detection)				•			
Advanced Temperature Management	•	•	•	•	•	•	•
NDIS driver					•	•	•
RIL driver	•		•		•	•	•
Multiplex driver Microsoft® Windows	•		•	•	•	•	•
SIM Access Profile							
Advanced Automotive features							
IMDS listed & GADSL compliant							
Environmental regulations							
RoHS compliant	•	•	•	•	•	•	•
WEEE compliant							

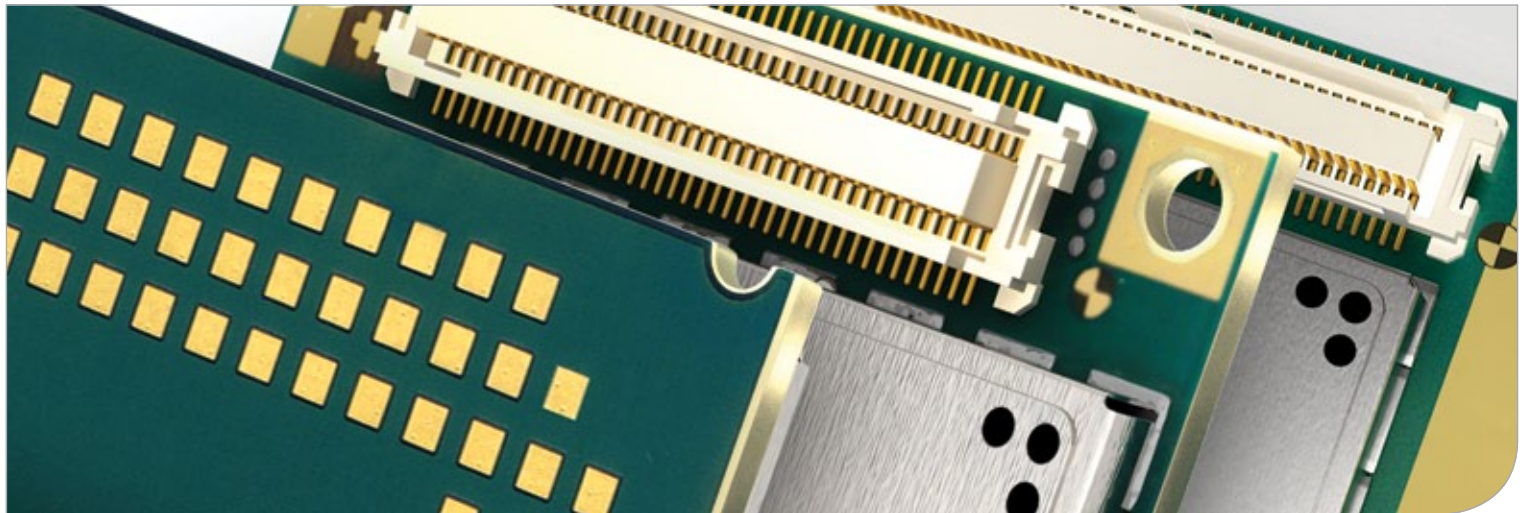
For detailed specification please see hardware interface description.

Product family	M2M Advanced	Automotive			Terminal	
Product	PVS8	AC65i/AC75i	AGS3	AH3	TC65T	BGS2T
	CDMA	EDGE/GPRS	GPRS	HSPA+	Java™	GPRS
						
Frequency range	DB CDMA2000	QB GSM/GPRS EDGE	QB GSM/GPRS	QB 3G (AH3-W) TB 3G (AH3-US) QB 2G	QB GSM/GPRS	QB GSM/GPRS
Embedded processing		Java™ (AC65i)			Java™	
Extended memory						
GPS, prepared for GLONASS	•			•		
Dimensions (in mm)	33 x 29 x 2	33.9 x 45 x 4	33.9 x 29.6 x 3.2	53 x 33.9 x 3.1	90 x 130 x 38	80 x 55 x 23*
Temperature range	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-30°C to +75°C	-30°C to +75°C
Voice	•	•	•	•	•	
Data Transmission						
HSPA				HSPA+ 14.4Mbps		
UMTS				•		
CDMA	•					
EDGE		Class 12 (AC75i)		Class 12		
GPRS		Class 12	Class 12	Class 12	Class 12	Class 10
CSD		•	•	•	•	•
SMS	•	•	•	•	•	•
Fax		•	•		•	•
TCP/IP connectivity		•	•	•	•	•
Prepared for eCall / ERA GLONASS				•		
Interfaces						
Antenna connector	via LGA pads	Rosenberger SMP	via LGA pad	via pogo pads	SMA	SMA
Antenna solder pad						
Board-to-board connector		80-pin		80-pin		
Surface mounting	LGA		LGA			
Audio analog/digital	1x/1x	2x/1x	2x/1x	1x/1x	handset interface	
Serial interfaces	1x	2x	2x	1x	9 pin sub-D	RS-232 or RS-485
USB	•	•	•	•		
I²C bus		•	•		•	
SPI bus		•	•		•	
ADC/DAC		2x/1x			2x/1x	
Dedicated multiple GPIO's (digital)		•		•	•	
Approvals						
R&TTE / GCF		•	•	•	•	•
FCC, IC, PTCRB	•	•	•	•	•	•
CE	•	•	•	•	•	•
Local operator certifications	•	•	•	•	•	•
Automotive e-mark		•	•	•	•	
Special features						
Over-the-air update		• (AC65i)			•	
RLS-Monitor (Jamming Detection)		•	•	•	•	
Advanced Temperature Management	•	•	•	•	•	•
NDIS driver	•					
RIL driver	•	• (AC75i)				
Multiplex driver Microsoft® Windows	•	• (AC75i)	•			•
SIM Access Profile		•	•	•		
Advanced Automotive features		•	•	•		
IMDS listed & GADSL compliant		•	•	•		
Environmental regulations						
RoHS compliant	•	•	•	•	•	•
WEEE compliant					•	•

*) ex. connector

GSM/GPRS/EDGE & UMTS/HSPA+

M2M Product Portfolio



Cinterion Wireless Modules Product Families



Automotive

The Automotive Products are designed to meet the high requirements of the automotive industry and are manufactured according to TS16949 quality standards.



M2M Advanced

The M2M Advanced Family is designed for applications, which require latest cellular technologies in M2M quality. The wireless broadband technologies UMTS and HSPA including backward compatibility with EDGE, GPRS and GSM are served.



M2M Evolution

M2M Evolution Products offer scalability, compatibility as well as an easy path to future upgrades and added functionality as technology needs expand. Portfolio benefits include maximum flexibility, high functionality, ease of integration, as well as backward and forward compatibility, which ensures a reliable, high quality and cost efficient solution that preserves your technology investment.



M2M Value

M2M Value products are designed for applications, which require an industry standard M2M feature set. They are optimized for single application cases with fixed demands. The M2M Value family includes vertical specific products for tracking and tracing with on board GPS functionality.



Terminals

Terminals are an easy and fast way to add M2M communication capabilities to an application. The terminal products can be connected via standard interfaces to the application.



Cinterion Global Support

Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.

The Cinterion support includes:

- Personal design-in consulting for hardware and software
- Extensive RF test capabilities
- GCF/PTCRB conform pretests to validate approval readiness
- Guidelines for local approvals and acceptances
- Regular training workshops

About Cinterion

A Machine-to-Machine (M2M) industry pioneer and market leader for more than 15 years, Cinterion gives customers the confidence to excel in a complex M2M ecosystem through the foundations of expertise, security, simplicity and partnership. Cinterion's award-winning products and services allow a wide range of connected machines, equipment, vehicles and other assets to securely communicate over wireless networks, helping enterprises simplify operations, increase efficiency and establish new business models. Cinterion is a valued partner for equipment makers, integrators, MNOs, and end-users, offering unique competence in combining wireless M2M modules with Machine Identification Modules (MIM), MIM personalization capabilities, cloud-based Service Delivery Platform for M2M applications and device management platforms in a trusted and secure environment. Cinterion products power M2M technology for diverse vertical markets including: automotive, tracking and tracing, industrial mobile computing, metering and smart grid, payment systems, healthcare, security systems, routers and gateways, remote maintenance and control and more.

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Further information about our products and services is also accessible via www.cinterion.com

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