

Micro Card Reader

Product specifications

	HF	Legic	Multi	Multi HID	Multi Legic
Orderable number	See pricelist/orderable items or contact support@baltech.de .				
Environmental compliance	RoHS, China RoHS, REACH, WEEE				
Certifications ¹	Individual country certification varies by card reader. Please contact support@baltech.de for a full list.				
Module housing material	PC/PMMA				
Module dimensions (L x W x H)	57 x 35 x 9 mm				
Module weight (without cable)	15 g				
Delivery scope SET	Reader module, snap-together Brick housing (for external installation), cable kit (see next row), "Place Card Here" sticker, 3M self-adhesive mounting tape, self-adhesive velcro mounting stripes, cable ties All items also orderable individually. See pricelist/orderable items or this video.				
Cable kit	1.8 m, USB A plug (for use with Brick housing for external installation); 12 cm, USB A plug (Xerox, Samsung, Kyocera pockets) 50 cm, USB mini-B plug (Ricoh, HP HIP 1 pockets) 9 cm, 90 degrees USB mini-B plug (HP HIP 2 pocket) All cables also orderable individually. See pricelist/orderable items or this video.				
Special cables	15 cm, USB mini-B socket (HP HIP 1 pocket special use case) Any other required cables can be provided on request.				
Brick housing material	PC/ABS, quartz white				
Brick housing dimensions (L x W x H)	85 x 48 x 17 mm				
Housed weight (with 1.8 m cable)	95 g				
Package dimensions (L x W x H)	175 x 90 x 53 mm				
Packaged weight	175 g				
Visual indicator	Tri-color LED (red, green, blue)				
Audible indicator	Beeper (magnetic transducer) ²				
Host interface	USB 2.0 Full Speed (USB 1.1 compatible). VID (Hex): 13AD; PID (Hex): default 9CA5, Keyboard-emulation enabled: 9CAA				
Host protocol	USB HID, USB HID Keyboard ³ (works with native drivers included in Windows, MAC, Linux, etc.)				
Host interface security	Authentication, mutual Authentication, AES encryption ⁷				
Voltage	4.7 to 5.5 V				
Absolute maximum current	300 mA				
Maximum operation current	210 mA	250 mA	210 mA	260 mA	235 mA
Average operating current	170 mA	190 mA	150 mA	175 mA	165 mA

	HF	Legic	Multi	Multi HID	Multi Legic			
Operating environment	-20 to +55 °C, 10 to 90% RH (non-condensing)							
Storage environment	-25 to +65 °C, 10 to 90% RH (non-condensing)							
Reliability	500,000 hours MTBF							
Compatible low frequency (LF) card types	-	-	AWID ³ Cardax (raw data only) ^{3,5} Cotag ³ Deister ³ EM-Marlin ³ FDX-B ^{3,5} G-Prox ³ Hitag 1, 2 (256, 2048), S ³ Honeywell NexWatch Quadrakey ³ IDTECK ³ ioProx ³ Miro ³ Pyramid/ Farpointe Data ³ Q5 ^{3,5}	Radio Key/ SecuraKey ³ Sokymat Unique ³ T5567/T5557 ^{3,5} Titan ^{3,5} Zodiac ^{3,5} Optional, with License Card Prox: HID Indala ASP, ASP+ (hash value) ^{3,10} HID Proximity ^{3,10} Keri ¹⁰	AWID ³ Cardax (raw data only) ^{3,5} Cotag ³ Deister ³ EM-Marlin ³ FDX-B ^{3,5} G-Prox ³ Hitag 1, 2 (256, 2048), S ³ Honeywell NexWatch Quadrakey ³ IDTECK ³ ioProx ³ Miro ³ Pyramid/ Farpointe Data ³ Q5 ^{3,5}	Radio Key/ SecuraKey ³ Sokymat Unique ³ T5567/T5557 ^{3,5} Titan ^{3,5} Zodiac ^{3,5} Included from factory: HID Indala ASP, ASP+ (hash value) ^{3,10} HID Proximity ^{3,10} Keri ¹⁰	AWID ³ Cardax (raw data only) ^{3,5} Cotag ³ Deister ³ EM-Marlin ³ FDX-B ^{3,5} G-Prox ³ Hitag 1, 2 (256, 2048), S ³ Honeywell NexWatch Quadrakey ³ IDTECK ³ ioProx ³ Miro ³ Pyramid/ Farpointe Data ³ Q5 ^{3,5}	Radio Key/ SecuraKey ³ Sokymat Unique ³ T5567/T5557 ^{3,5} Titan ^{3,5} Zodiac ^{3,5} Optional, with License Card Prox: HID Indala ASP, ASP+ (hash value) ^{3,10} HID Proximity ^{3,10} Keri ¹⁰
LF antenna type		-		Wire-wound				
LF center frequency		-		125 kHz				
LF read range ⁶		-		Up to 55 mm				
LF response time		-		150 to 700 ms (depending on card type)				
Compatible high frequency (HF) card types	ISO 14443 A/B, including: <ul style="list-style-type: none"> Cepas Infineon my-d proximity NFC Forum Tag 1-4 NXP SmartMX, ProX Paypass SRIX512, SRIX4K ISO 15693 general, including: <ul style="list-style-type: none"> EM 4033, 4035 NXP iCode Infineon my-d vicinity Tag-it ISO Mifare, including: <ul style="list-style-type: none"> Classic (1K, 4K, Mini) DESFire, -EV1,2,3 (2K, 4K, 8K) Plus(-S, -X, L1, L2, L3) Ultralight, -C Pico Pass Rijkspas Sony FeliCa Calypso LEGIC Advant (UID only)⁷ HID iCLASS, iCLASS SE (UID only)^{7,8} HID iCLASS Seos (UID only)^{7,8} 	ISO 14443 A/B, including: <ul style="list-style-type: none"> Cepas Infineon my-d proximity NFC Forum Tag 1-4 NXP SmartMX, ProX Paypass SRIX512, SRIX4K ISO 15693 general, including: <ul style="list-style-type: none"> EM 4033, 4035 NXP iCode Infineon my-d vicinity Tag-it ISO Mifare, including: <ul style="list-style-type: none"> Classic (1K, 4K, Mini) DESFire, -EV1,2,3 (2K, 4K, 8K) Plus(-S, -X, L1, L2, L3) Ultralight, -C PicoPass (UID only)^{3,7} Sony FeliCa (UID/IDm Only)^{3,7} Rijkspas Calypso³ LEGIC Prime, Advant (Full decoding) HID iCLASS (Full decoding) HID iCLASS SE, Seos (UID Only)^{3,7,8} 	ISO 14443 A/B, including: <ul style="list-style-type: none"> Cepas Infineon my-d proximity NFC Forum Tag 1-4 NXP SmartMX, ProX Paypass SRIX512, SRIX4K ISO 15693 general, including: <ul style="list-style-type: none"> EM 4033, 4035 NXP iCode Infineon my-d vicinity Tag-it ISO Mifare, including: <ul style="list-style-type: none"> Classic (1K, 4K, Mini) DESFire, -EV1,2,3 (2K, 4K, 8K) Plus(-S, -X, L1, L2, L3) Ultralight, -C Pico Pass Rijkspas Sony FeliCa Calypso LEGIC Advant (UID only)⁷ HID iCLASS, iCLASS SE (UID only)⁷ HID iCLASS Seos (UID only)^{7,8} 	ISO14443 A/B, including: <ul style="list-style-type: none"> Cepas Infineon my-d proximity NFC Forum Tag 1-4 NXP SmartMX, ProX Paypass SRIX512, SRIX4K ISO 15693 general, including: <ul style="list-style-type: none"> EM 4033, 4035 NXP iCode Infineon my-d vicinity Tag-it ISO Mifare, including: <ul style="list-style-type: none"> Classic (1K, 4K, Mini) DESFire, -EV1,2,3 (2K, 4K, 8K) Plus (-S, -X, L1, L2, L3) Ultralight, -C LEGIC Advant (UID only)^{3,7} Pico Pass³ Rijkspas³ Sony FeliCa³ Calypso³ HID iCLASS (Full decoding) HID iCLASS SE, Seos (Full decoding) 	ISO 14443 A/B, including: <ul style="list-style-type: none"> Cepas Infineon my-d proximity NFC Forum Tag 1-4 NXP SmartMX, ProX Paypass SRIX512, SRIX4K ISO 15693 general, including: <ul style="list-style-type: none"> EM 4033, 4035 NXP iCode Infineon my-d vicinity Tag-it ISO Mifare, including: <ul style="list-style-type: none"> Classic (1K, 4K, Mini) DESFire, -EV1,2,3 (2K, 4K, 8K) Plus(-S, -X, L1, L2, L3) Ultralight, -C PicoPass (UID only)^{3,7} Sony FeliCa (UID/IDm Only)^{3,7} Rijkspas Calypso³ LEGIC Prime, Advant (Full decoding) HID iCLASS (Full decoding) HID iCLASS SE, Seos (UID Only)^{3,7,8} 			

	HF	Legic	Multi	Multi HID	Multi Legic
HF antenna type	Wire-wound				
HF center frequency	13.56 MHz				
HF read range ⁶	Up to 80 mm				
HF response time	30 to 300 ms				
HF encryption support ⁹	AES, DES, 3DES, 3K3DES, MAC, Mifare Classic, DESFire, DESFire-EV1,-2,-3, Mifare Plus L1, L2, L3	AES, DES, 3DES, 3K3DES, MAC, HID iCLASS, LEGIC, Mifare Classic, DESFire, DESFire-EV1,-2,-3, Mifare Plus L1, L2, L3	AES, DES, 3DES, 3K3DES, MAC, Mifare Classic, DESFire, DESFire-EV1, Mifare Plus L1, L2, L3	AES, DES, 3DES, 3K3DES, ECC, MAC, RSA, HID iCLASS, iCLASS SE, Seos, Mifare Classic, DESFire, DESFire-EV1,-2,-3, Mifare Plus L1, L2, L3	AES, DES, 3DES, 3K3DES, MAC, HID iCLASS, LEGIC, Mifare Classic, DESFire, DESFire-EV1,-2,-3, Mifare Plus L1, L2, L3
Secure Access Module (SAM) socket	-	-	ID-000 format	ID-000 format, iCLASS SE Processor SAM pre-installed	ID-000 format
Business Connect support (via NFC and Bluetooth®)	-	-	Android, iOS		
Bluetooth					
Classification	-	-	4.2, Low Energy		
Transmit power	-	-	Class 2 (maximum power: 2.5 mW / +4 dBm) Programmed output: 2 mW / +3 dBm		
Receive sensitivity	-	-	-90 dBm		

Notes:

- Individual country certifications vary by reader model. Contact support@baltech.de to confirm availability in the countries of interest.
- Enabled by default, readers require configuration to disable.
- Disabled by default, readers require configuration to enable.
- Host interface authentication and encryption not available in USB HID keyboard emulation mode.
- Transponder is supported by reader hardware, but special firmware/configuration may be required to recover a unique ID or other data.
- Range varies with transponder type and is based on the use of standard identification and financial (ISO 7811) sized cards with readers mounted to a non-metallic surface. Use of alternate transponder formats (fobs, stickers, mechanical keys with smart heads, etc.) or mounting to a metallic surface results in a reduction of the published read range.
- By default, readers return a Unique ID (UID) for each card or tag within a given transponder family. It is not possible for the reader to access other data stored in transponders designated 'UID'.
- iCLASS Seos UIDs can only be returned from Seos cards special ordered with Static UIDs, as randomized UIDs are unsuitable for user identification and ignored by default.
- Access to encrypted data requires customization of the reader via secure configuration files. For more information contact support@baltech.de.
- The license to read HID Prox, Indala, or Keri cards is **not** included when you order the standard set variants 12115-610-53 or 12117-810-53, or when you order the Multi-Card or iCLASS and SEOS module individually. If needed, the license can be added using a BALTECH LicenseCard (see pricelist/orderable items or [this video](#)).