Micro Card Reader

Product specifications

	HF	HF Legic	Multi	Multi HID	Multi Legic
Orderable number	See price list or contact support@baltech.de.				
Environmental c ompliance	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), USB 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 reader and accessories price lists.***				
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 accessories price list.***				
Additional cables	Various additional cables available, e.g. 0.25 cm, USB A plug (e.g. for Ricoh MFPs) ***For a full list, see accessories price list. Any custom 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				
Max. supply current	300 mA				
Typ. supply current firmware 1096 v3.02 and above	120...140 mA				
Typ. supply current firmware 1096 below v3.02	150...200 mA				

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	HF	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-Marin[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 LicenseCard:** HID Indala ASP, ASP+ (hash value)[3,] HID Proximity[3] Keri	AWID[3] Cardax (raw data only)[3,5] Cotag[3] Deister[3] EM-Marin[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] HID Proximity[3] Keri	AWID[3] Cardax (raw data only)[3,5] Cotag[3] Deister[3] EM-Marin[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 LicenseCard:** HID Indala ASP, ASP+ (hash value)[3] HID Proximity[3] Keri
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:*** • Cepas • Infineon my-d proximity • NFC Forum Tag 1-4 • NXP SmartMX, ProX • Paypass • SRIX512, SRIX4K ***ISO 15693 general, including:*** • EM 4033, 4035 • NXP iCode • Infineon my-d vicinity • Tag-it ISO ***Mifare, including:*** • 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]	***ISO 14443 A/B, including***: • Cepas • Infineon my-d proximity • NFC Forum Tag 1-4 • NXP SmartMX, ProX • Paypass • SRIX512, SRIX4K ***ISO 15693 general[3], including:*** • EM 4033, 4035 • NXP iCode • Infineon my-d vicinity • Tag-it ISO ***Mifare[3], including:*** • 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 Calypso[3] ***LEGIC Prime, Advant (Full decoding)*** ***HID iCLASS (Full decoding)*** HID iCLASS SE, Seos (UID Only) [3, 7, 8]	***ISO 14443 A/B, including:*** • Cepas • Infineon my-d proximity • NFC Forum Tag 1-4 • NXP SmartMX, ProX • Paypass • SRIX512, SRIX4K ***ISO 15693 general, including:*** • EM 4033, 4035 • NXP iCode • Infineon my-d vicinity • Tag-it ISO ***Mifare, including:*** • 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:*** • Cepas • Infineon my-d proximity • NFC Forum Tag 1-4 • NXP SmartMX, ProX • Paypass • SRIX512, SRIX4K ***ISO 15693 general[3], including:*** • EM 4033, 4035 • NXP iCode • Infineon my-d vicinity • Tag-it ISO ***Mifare[3], including:*** • 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 Pass[3] Rijkspas[3] Sony FeliCa[3] Calypso[3] ***HID iCLASS (Full decoding)*** ***HID iCLASS SE,Seos (Full decoding)***	***ISO 14443 A/B, including***: • Cepas • Infineon my-d proximity • NFC Forum Tag 1-4 • NXP SmartMX, ProX • Paypass • SRIX512, SRIX4K ***ISO 15693 general[3], including:*** • EM 4033, 4035 • NXP iCode • Infineon my-d vicinity • Tag-it ISO ***Mifare[3], including:*** • 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 Calypso[3] ***LEGIC Prime, Advant (Full decoding)*** ***HID iCLASS (Full decoding)*** HID iCLASS SE, Seos (UID Only) [3, 7, 8]

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	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
BALTECH Mobile ID support (via Bluetooth®)	-	-	Android, iOS		
Tungsten (formerly Kofax) 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:

1. Individual country certifications vary by reader model. Contact support@baltech.de to confirm availability in the countries of interest.
2. Enabled by default, readers require configuration to disable.
3. Disabled by default, readers require configuration to enable.
4. Host interface authentication and encryption not available in USB HID keyboard emulation mode.
5. Transponder is supported by reader hardware, but special firmware/configuration may be required to recover a unique ID or other data.
6. 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.
7. 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.
8. 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.
9. Access to encrypted data requires customization of the reader via secure configuration files. For more information contact support@baltech.de.

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