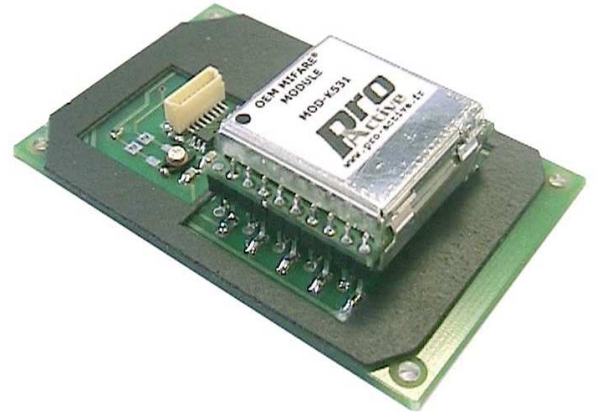


**ISO/IEC 14443 OEM CONTACTLESS READ/WRITE COUPLER (RS-232)**

Pro-Active **K531-232** is an ISO/IEC 14443 contactless reader/writer, for OEM integration. **K531-232** features **K531** module mounted on an antenna, with RX/TX on a standard RS-232 serial interface.

**K531-232** reads and writes popular Philips MIFARE cards, as well as memory proximity tags from other manufacturers. As a versatile T=CL reader, **K531-232** is also suitable for use with any ISO/IEC 14443 layer 4 smartcards, including Philips DESFIRE cards.

Thanks to its asynchronous serial communication interface, **K531-232** is really easy to operate from any micro-controller or host computer.



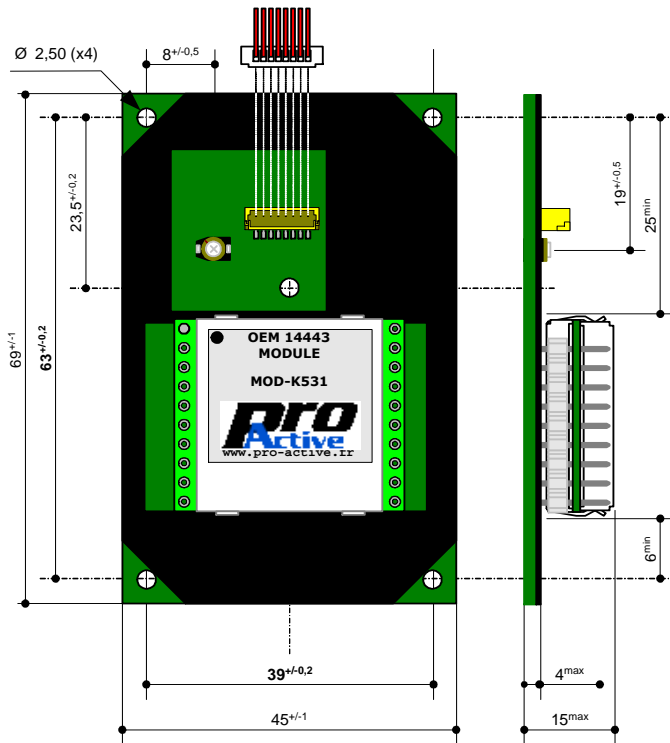
**Contactless interface**

- Compliance : ISO/IEC 14443 A/B (1, 2, 3 and 4),
- T=CL protocol embedded in coupler's firmware (256-byte frames, multi-activation with CID),
- Work with any ISO/IEC 14443 A or B smartcard (Philips DESFire, ProX, SmartMX, Infineon SLE66, STMicroelectronics ST19, ... ),
- Read / write Philips MIFARE Classic and UltraLight cards or tags ; CRYPTO1 cipher unit with secure key storage (MfRC531 chipset),
- Other card supports (Calypso, Jewel, SR176, ...) on request,
- 13.56MHz RFID transmission, 106kpbs to 424kbps baudrate,
- Card operating distance : depends on card type and size ;5cm typical, min 1cm, max 8cm.

**Electronics**

- Small footprint antenna : 45mm x 69mm x 15mm,
- Ferrite shielding at the rear of the antenna,
- RX/TX pins (RS-232) for asynchronous serial communication (38400 or 115200bps, 8 data bits, 1 stop, no flow control),
- Power supply : 5V DC, 150mA typical,
- Extended temperature range (-20 to +80 °C).

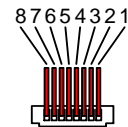
**See K531' datasheet for complete specification (ref. PFT12010)**



**Pinout**

(fem. connector : JST SHR-08V-S-B)

- EN : 8    4 : VCC (5V)
- NMI : 7    3 : RXD
- Ground : 6    2 : TXD
- RESET : 5    1 : Ground



**Note :**  
**K531-232** is a new product.  
 Former MOD-K531-232 has been renamed **K531-TTL**.

Information in this document is subject to change without notice. Reproduction without written permission of PRO ACTIVE is forbidden. PRO ACTIVE and the PRO ACTIVE logo are registered trademarks of PRO ACTIVE SAS. All other trademarks are property of their respective owners.

**TECHNICAL DATASHEET**



**Pro Active**  
 Parc Gutenberg  
 13 voie La Cardon  
 91120 Palaiseau  
 France

Phone : +33 1 64 53 20 10  
 Fax : +33 1 64 53 20 18  
 e-mail : [info@pro-active.fr](mailto:info@pro-active.fr)  
 website : [www.pro-active.fr](http://www.pro-active.fr)

S.A.S. with a capital of 227 000 €  
 R.C.S. EVRY B 429 665 482  
 A.P.E. 722 C  
 VAT # : FR 27 429 665 482 00015