



## OEM READER BOARD READ-WRITE

<b>Frequency:</b>	125 kHz or 134 kHz +/- 3.0 kHz (at RT)								
<b>Antenna:</b>	antenna on board, external antenna (L=191 $\mu$ H, R < 5 $\Omega$ ) can be added in toggle mode								
<b>Read Distance:</b>	Short Range (proximity)								
<b>Housing:</b>	PCB, no housing								
<b>Dimensions:</b>	65 x 55 x 10 mm (2.56 x 2.16 x 0,39 in)								
<b>Power supply:</b>	9..12VDC or 5 VDC								
<b>Typ. Supply current:</b>	Antenna on: 75mA, antenna off 15mA @5VDC (interface active)								
<b>Operating temperature:</b>	0°C to +40°C (32F to +104F)								
<b>Interfaces:</b>	RS232 (V24), USB, RS485 (V24) and TTL								
<b>Standard Firmware:</b>	<table border="0"> <tr> <td><u>Read only :</u></td> <td><u>Read &amp; Write</u></td> </tr> <tr> <td>UNIQUE (EM4x02)</td> <td>Q5</td> </tr> <tr> <td>ISO 11784 /5, (FDX-B),EM4x05</td> <td>HITAG 1</td> </tr> <tr> <td>HITAG-S-32</td> <td>HITAG-S-256 /2K</td> </tr> </table> <p>Other reader firmware for EM4x25, EM4x70, EM4x50, EM4269, TIRIS, ATMEL T555x ASK, PSK, FSK are customized available upon request. (see page 3)</p>	<u>Read only :</u>	<u>Read &amp; Write</u>	UNIQUE (EM4x02)	Q5	ISO 11784 /5, (FDX-B),EM4x05	HITAG 1	HITAG-S-32	HITAG-S-256 /2K
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<b>Firmware features:</b>	<ul style="list-style-type: none"> <li>• software loader for later firmware updates via serial interface</li> <li>• forth-interpreter, programmable offline functionality in forth</li> <li>• Command-interpreter, including all diagnostic and I/O functions</li> <li>• -SM ; secure mode, AES crypto mode for HITAG-1, HITAG-S 256 /2K</li> <li>• -AM ; ISO11784/5 (FDX-B &amp; HDX)</li> <li>• -QX ; possibility to read different FDX-A modes (ASK, PSK, FSK)</li> </ul> <p>The different firmware modules can be optional mixed in order to offer a maximum of customization flexibility. Custom tailored firmware can be designed upon request.</p>								
<b>Technical Certificates:</b>	CE								
<b>Part number:</b>	TLB-11-AA = RS232 (V24) TLB-12-AA = USB TLB-13-AA = RS485 (V24) TLB-14-AA = TTL								



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<p><b>Features:</b></p>	<ul style="list-style-type: none"> <li>• Ready to use reader board by connecting power and communication interface</li> <li>• On board amplifiers for higher performance compare to TLM-10</li> <li>• on board demodulator to increase sensitivity compare TLM-10</li> <li>• Synchronization of multiple readers via SYNC</li> <li>• 3 / (2) free configurable I/O port, (RS485 with only 2 IO's)</li> <li>• No quartz or external clock needed</li> <li>• 5V input and 9..12VDC</li> <li>• Offline functionality macro programmable by the customer</li> <li>• Application specific firmware versions (ASF) available</li> <li>• Full customized firmware possible on volume demand</li> <li>• Signal amplitude measurement to measure the signal strength of the tag</li> <li>• Command timing at the air interface is adjustable by parameters</li> <li>• External antenna can be easy added and toggled with the internal one,</li> <li>• 2 LED's are already board mounted and can be controlled via the IO's</li> <li>• Low power consumption</li> </ul>
<p><b>Specials:</b></p>	<p>Reader boards with ASK, FSK or PSK demodulators can be offered on volume demand, as well as multi demodulator reader boards (ASK + PSK + FSK)</p>
<p><b>Inputs / Outputs:</b></p>	<p>3 digital I/O's, (RS485 with 2 I/O's), 2LED's on board</p>
<p><b>Board shape:</b></p>	<p>4 mounting holes - diameter 2.5 mm</p>

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