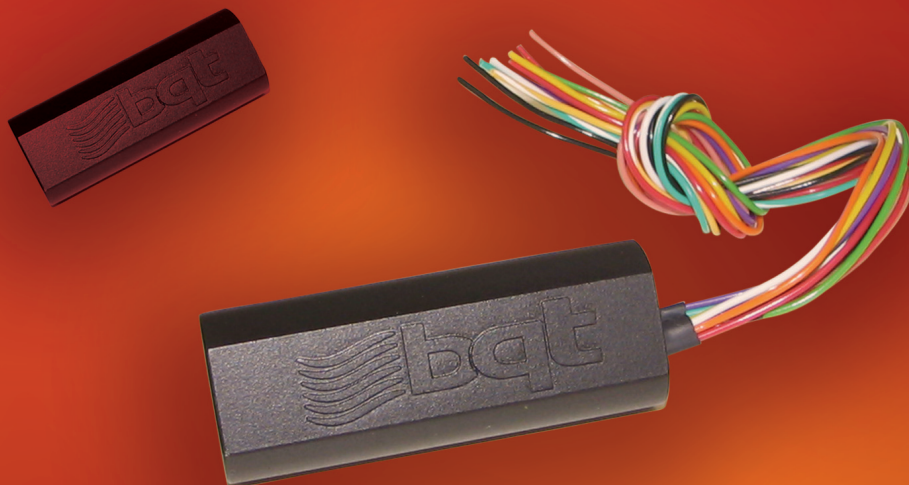


## HSM

## high security module



The High Security Module, in addition to BQT's miPASS suite of Mifare and Biometric solutions, is the complete answer for secure access control.

Most access control systems rely on the transfer of information through unsecured Wiegand lines to an access control panel from a front end reader, such as a smart card reader, biometric unit or a PIN (Personal Identification Number) terminal. Although the wiring itself is vulnerable to snooping and signal manipulation, the user's sensitive data can be protected with digital encryption.

BQT has developed the High Security Module (HSM) as an addition to our range of Biometric and Mifare access solutions, which through encryption secures the transmission of data between BQT's miPASS readers and any standard security access control panel.

The connection between a miPASS reader and an HSM is via RS485 communication, thus allowing the card readers to be located up to 1.2km (4000 ft) from the control panel, providing greater flexibility and a reduction in installation cost.

Encrypted communication travels between the miPASS reader and the decryption module, thus ensuring an absolute secure information path that cannot be compromised whether it be wall enclosed or a remote site such as an access gate. The HSM unit can be installed inside the control panel or in a secured area.

#### How it works

Firstly, the miPASS reader retrieves the card data via contactless technologies such as Mifare, DESFire, or FIPS201 PIV.

Next, it packages the data by using a choice of approved encryption methods such as 3DES, AES Rijndael, or Skipjack to the HSM. The secure package is then sent to the HSM using a unique session key that is never repeated.

Finally, the HSM module decrypts the data quickly and forwards it to the controller.

# miPASS HSM example configuration



**Mifare  
Encryption  
on RF  
Communication  
(Card to Reader)**



**BQT miPASS  
Reader**

Distance between reader and  
HSM can be up to 1.2km (4000ft)

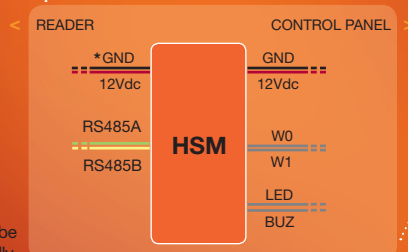
**WIEGAND via ENCRYPTED RS485**

**SECURED 3DES, Skipjack or AES  
Rijndael Encrypted Communication**



The HSM unit can  
be installed securely  
inside the Control Panel

**Controller Format:**  
Can be Wiegand,  
Clock & Data



\* Note: GND connection must be  
maintained if reader is powered locally.

## miPASS HSM specifications

Specifications	
power requirement	12Vdc
current consumption	60ma
reader interface	<b>Power:</b> 12Vdc, GND <b>RS485:</b> 485A, 485B
control panel interface	<b>Power:</b> Wiegand <b>Wiegand:</b> W0, W1 <b>Notifications:</b> LED, BUZ
relay	Dry contact
operating temperature	-10°C to +55°C (14°F to 131°F)
relative humidity	90% max, operating non-condensing
dimensions	65mm x 20mm x 25mm (2.56" x 0.79" x 0.98")
encryption	<ul style="list-style-type: none"> <li>• 3DES</li> <li>• AES 128 bit</li> <li>• SkipJack</li> <li>• Rijndael</li> <li>• Custom configurations</li> </ul>
IP rating	IP67
colour	Charcoal

\* Specifications subject to change without notice

BQT offers a complete range of smart card access control solutions to suit all physical & IT security requirements, including highly secure biometric, data encryption and CCTV technologies.

**For further information, please visit our website [www.bqtsolutions.com](http://www.bqtsolutions.com) or contact us at one of our global locations.**

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