

 OEMTech

*Excellence
Through
Innovation*

Electrolock

Product Guide

Document ID: G0034 v1.0



**Read guide fully before commencing installation.
This guide must be present during time of install.
This guide is to be used in conjunction with training.**

Distribution:

This document contains information which is proprietary to The Vehicle Group Limited (inclusive of its subsidiaries). It may not be reproduced, retransmitted, or otherwise distributed without prior written consent from The Vehicle Group Limited.

CONFIDENTIAL: TVG and Customer.

Document Change Control

Date	Version	Author	Approval	Changes
25-Jun-24	V1.0	A.Barker	M.Blackbourn	Initial Release

Table of Contents

Legal Notices	Page 3
General Notices	Page 4
Introduction to Electrolock	Page 5
Example 2 Door System - Main Components	Page 6
Electrical Information	Page 7
Example 2 Door System Schematic	Page 8
Electrolock Installation Information	Page 9
Electrolock System - Operation	Page 10
About Us & Contact Information	Page 11

Legal Notice

Due care has been taken in creating the information contained within this guide, The Vehicle Group Limited does not and cannot guarantee the accuracy thereof. Anyone using the information contained in this document does so at their own risk, The Vehicle Group Limited will not indemnify for any injury or damage arising from such use.

This document is for use by the intended recipient, and contains confidential information under applicable law. You are hereby formally notified that any unauthorised use, copying or distribution of the document, in whole or in part, is strictly prohibited.

This publication supersedes and replaces all information previously supplied.

Trademarks

The Vehicle Group Limited logo and product names are trademarks of The Vehicle Group Limited and are protected by copyright law.

All rights reserved.

Intellectual Property

All intellectual property contained within this guide remains the property of The Vehicle Group Limited.

Copyright Notice

© Copyright 2024, The Vehicle Group Limited.

General Notices

- Before starting installation, please read the documentation fully as the performance of the device is dependent on correct installation.
- This device is designed for automotive use only. It must not be used in situations where human life is dependent on its performance.
- Installation of this device may conflict with some countries regulations, or the vehicle manufacturers instructions. Compliance with these regulations shall solely be the customers responsibility. Improper installation may invalidate the vehicle warranty.
- Prior to the commencement of any work, the correct PPE should be worn and a risk assessment should be conducted in accordance with your company policies.
- Ensure manufacturers guidance is followed during the installation.
- The device must be installed by a suitably qualified and experienced professional skilled in automotive electronics.
- Misuse, physical damage and incorrect installation will invalidate the warranty of this device or systems using this device.
- Vehicle batteries should be isolated before working on any electrical systems.
- If using the OEM body builders module to gain CANbus information, ensure the module is correctly configured by the manufacturer.
- Do not secure the device in a way where it will interfere with the vehicles control systems. E.g. steering column, brake pedals etc.
- Other people may install equipment after you, so your work must be firmly secured in place, this includes devices and cabling.
- Connecting the power supply and ground should be done as per OEM specifications. Once any jointing or crimping has been completed, testing should be conducted to ensure the joint is compliant with the crimp specifications and all other relevant standards.
- We do not recommend drilling through vinyl (vehicle decals etc) as this will lead to blistering from the heat generated. Hole should be fitted with a grommet and sealed with appropriate sealant.
- Any alteration to metal must be de-burred and all sharp edges removed. Exposed bare metal must be treated with appropriate anti-corrosion solution in accordance with manufacturers recommendations. Any swarf produced must be collected by placing a magnet or catchment device under the area of modification. No swarf is to be left on or in a vehicle.
- We recommend using flexible polyurethane sealants. Any sealed areas must be sealed to a minimum of IP65 and must comply with the vehicle manufacturers recommendations.
- Any serial / key numbers from the equipment being installed must be logged against the vehicle identity for future reference.

Introduction to Electrolock

Central locking control systems give great convenience, but can also leave unattended doors vulnerable to thieves. While the driver goes for goods or tools in one door, a thief can gain access to another.

Electrolock minimises this risk by unlocking just a single door and automatically re-locking it after a user-determined time, or when the driver touches the electronic key to the reader. Electrolock ensures that the vehicle cannot be accidentally or carelessly left unlocked.

Electrolock is available in 1, 2, or 3 door systems.

Key Benefits

- Electrolock prevents unattended doors being unlocked unknowingly.
- The load area cannot be left unlocked.
- It's a proven system used by leading fleet operators.
- Kits available for 1, 2, or 3 door systems.

Type Approval

Approval Number: E11*10R05/01*10924*01

Part Numbers

301908: Electrolock Universal Kit 1 Door

301944: Electrolock Universal Kit 2 Door

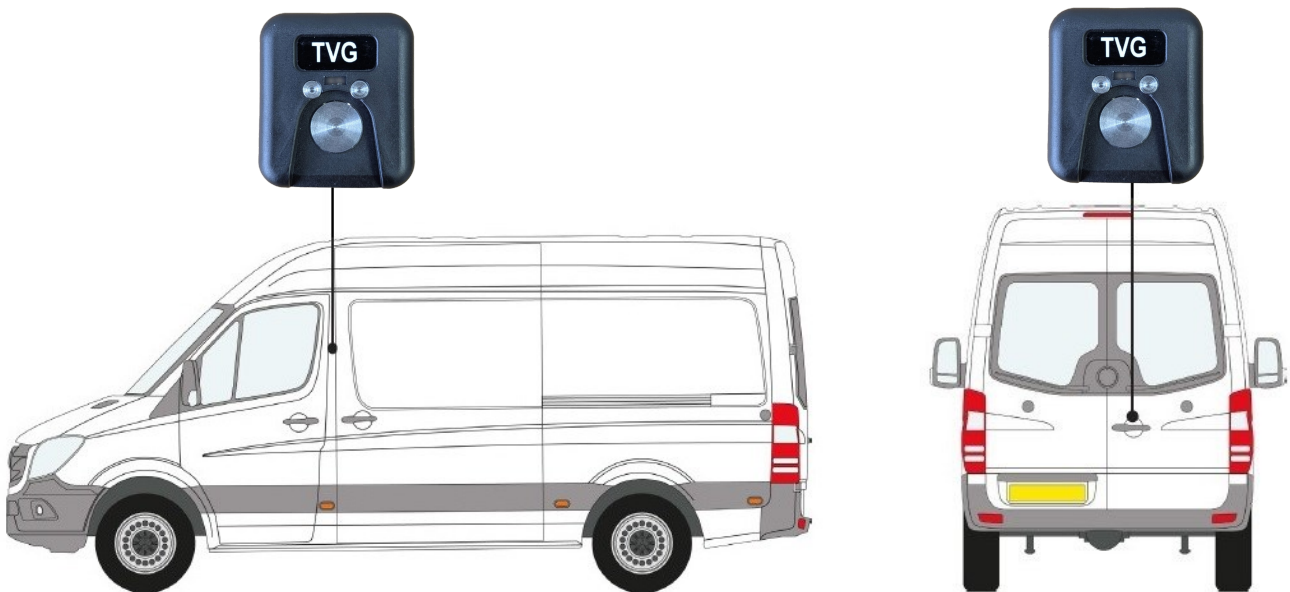
301945: Electrolock Universal Kit 3 Door

Example 2 Door System - Main Components

An example system on a typical van would use TVG Electrolock on the two entry points to the cargo area, the side and the rear doors.

The each door lock is controlled by a **Programmable ECU**.

Next to each of the cargo doors a **Readerhead** will be need to be installed, similar to the images below.



The readerheads are operated with an **Electronic Key** that is programmed to the vehicle. The electronic keys are waterproof, shockproof, and do not require a battery.

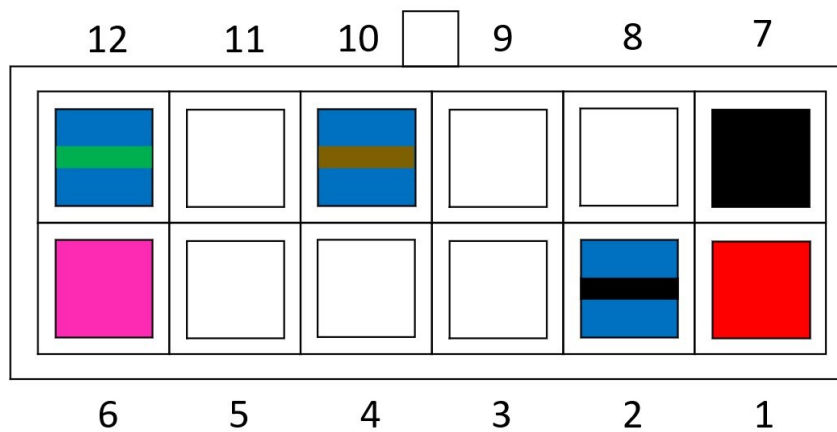


All parts are connected using TVG Universal looms.

Electrical Information

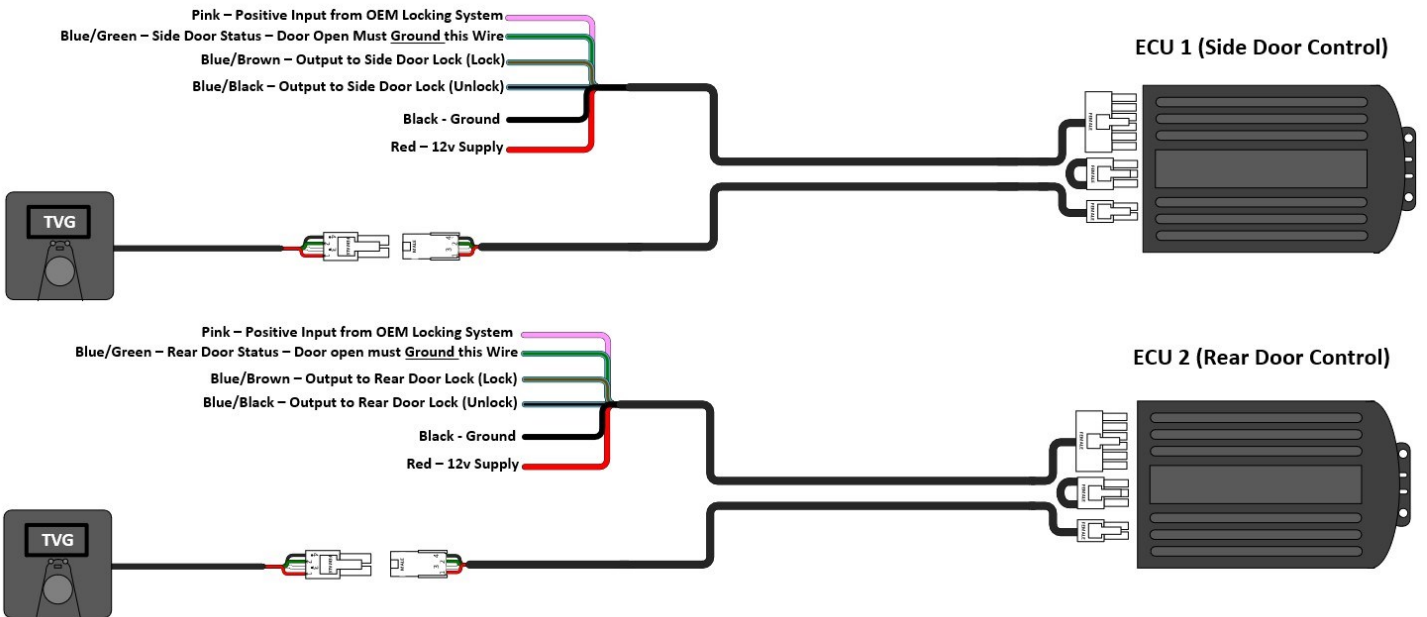
Electrical Information	
Working Voltage	12v (Range 10v - 16v)
Switching Current	10A (Maximum)
Current Draw when Idle	5mA

Electrolock Universal Loom



Electrolock Universal Loom		
Pin	Wire Colour	Function
7	Black	Ground.
1	Red	12v Supply (fused).
10	Blue / Brown	Output to locks. Normally ground. Positive pulse to Lock.
2	Blue / Black	Output to locks. Normally ground. Positive pulse to Unlock.
12	Blue / Green	Door pin switch. Negative input. Door open must ground this wire.
6	Pink	Positive IN to prevent operation of system if cab doors left insecure. Feed from OEM locking system.

Example 2 Door System - Schematic



Electrolock Installation Information

Readerheads

To install the readerheads you should select an appropriate area close to the door handle of the lock you wish to control, ensuring that when you drill the hole it will not foul and of the handle mechanism.

Carefully mark, then drill a 20mm hole in your chosen location. Deburr the hole then treat any bare metal with a suitable anticorrosion solution in accordance with the OEM recommendations.

Once the anti-corrosion has fully dried place the readerhead through the hole and secure with the nut on the back. A thin bead of polyurethane should be used to ensure a water tight seal.

Plug the readerhead into the readerhead extension cable then route through to the ECU.

The above process will need to be repeated for each door lock the Electrolock will control, so for this example 2 door system, 2 readerheads will need to be installed.

ECU

The ECU(s) should be securely installed in a place where they will not interfere with any vehicle operations. We recommend under the drivers or passengers seat. Once a suitable location is selected 5mm holes should be drilled, deburred, and treated with anticorrosion before securing the ECU(s) in place.

Electrolock uses 1 ECU per door lock to be controlled, so for this example 2 door system, 2 ECUs will need to be installed. Ensure your chosen location has enough space for the required number of ECUs.

Door wiring

Cut and connect into the motor side of the door lock / unlock wires on the door. The TVG loom uses Blue/Brown for LOCK, and Blue/Black for UNLOCK. The Blue/Green wire should be connected to the door status so that the door open will ground this wire. Ensure all wires are connected properly to the relevant standards, then tested to ensure the connection is secure and compliant with the standards.

Looms

All looms should be carefully routed to ensure they do not interfere with or foul and of the vehicle operations. Looms should where possible be routed to follow OEM looms. Any holes drilled to route looms should be deburred, treated with an anticorrosion solution, and fitted with a grommet.

System Supply

The system requires a 12v supply fused at 10A and a ground. These can be taken from any suitable location

Electrolock System - Operation

Unlocking a cargo area door

Before the cargo doors can be unlocked, the cabin doors must be locked (if the Pink wire is receiving a front door locked signal).

To unlock a cargo door follow the following steps:

- 1) Place the black electronic key onto the metal circle of the readerhead of the door you wish to unlock.
- 2) You will hear the door unlock.
- 3) The green LED indicator on the readerhead will illuminate.
- 4) You now have a short window of time to open the door using the handle. The amount of time is customisable but we would recommend 3 seconds.
- 5) The green LED indicator will stay lit until the door is closed.
- 6) If the door is not opened before the 3 second window, the system will re-lock the door and the green LED will go out.

Locking a cargo area door

To lock a cargo door follow the following steps:

- 1) Fully close the door using the handle.
- 2) After 3 seconds you will hear the door lock.
- 3) The green LED indicator will go out.

Exiting a locked cargo area

If you enter the cargo area and close the door behind you, the door will automatically lock after 3 seconds. To exit the vehicle from a locked cargo area door:

- 1) Use the internal door handle as described in the vehicle handbook.
- 2) The door will open for you.
- 3) Ensure you have the electronic key on you, then close the door behind you. The LED on the readerhead should be green.
- 4) After 3 seconds the door will lock and the LED will go out.

About Us

The Vehicle Group Limited (TVG) is a leading manufacturer of high quality safety and security systems for commercial vehicles. Our facility in North Yorkshire, where we have circa 100 employees, is home to our design, manufacturing, engineering, and service centre. We are especially proud of our market leading, British engineered and manufactured CCTV solution Oculux®, which is used Worldwide.

Our technology's include:

- Oculux® Cameras.
- Automotive CCTV.
- CANbus Readers.
- Commercial Vehicle Announcement System (CVAS).
- Vehicle Solar Systems.
- Cable Harness Design & Manufacture.
- Electronic Design & Manufacture.
- Systems Development.

Useful Contacts

Sales and Account Management Team

Telephone: 03450 60 50 40

Email: sales@tvg.uk

Technical Support

Telephone: 03450 60 50 40

Web: <https://support.tvg.uk/>

Email: support@tvg.uk

Service and Installation Centre

Telephone: 03450 60 50 40

Email: service@tvg.uk

**1 Target
Chartermark Way
Colburn
North Yorkshire
DL9 4QJ**

Tel: +44 (0) 3450 60 50 40

Email: info@tvg.uk

Web: www.thevehiclegroup.com