

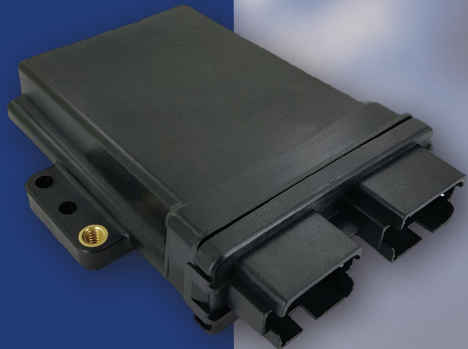


TriMark®

DOOR SYSTEMS

Access to Excellence

Mechatronics



Scan for e-book



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TriMark



TriMark Corporation



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About TriMark

TriMark is a leading global designer and manufacturer of access hardware for the ag, construction, truck, bus, power sports, recreational, specialty, and armored vehicle markets. Offering a comprehensive selection of handles, latches, linkages, hinges and complete door access systems including mechatronics for keyless entry, keyless start and systems for hard to close doors due to air compression or high door seals. If you need a solution to secure a personnel or compartment door safely and reliably, improve your user interface or looking for robust access hardware, our team can provide application support and customized system solutions.



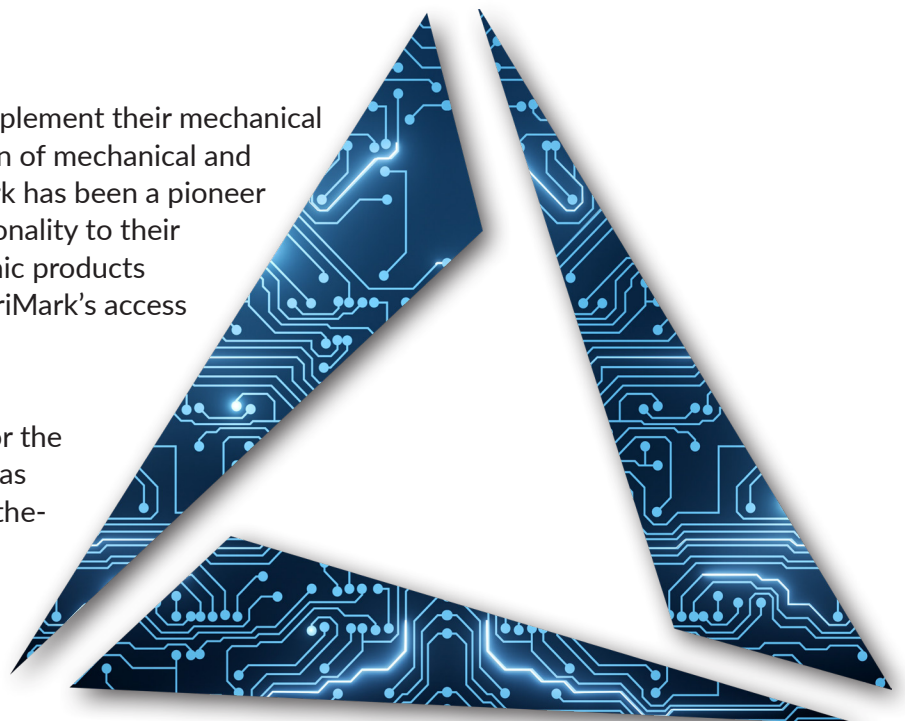
Our Success is Our Employees Success



What is Mechatronics

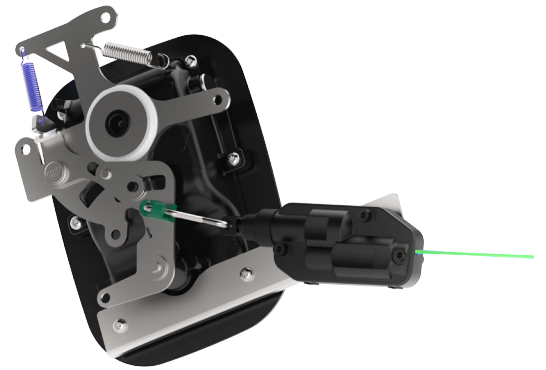
TriMark provides electronic options to complement their mechanical Access Hardware Solutions. This integration of mechanical and electrical is called Mechatronics and TriMark has been a pioneer in bringing this further dimension of functionality to their customers. The addition of keyless electronic products adds further convenience and security to TriMark's access hardware and door systems.

If security and convenience are two of the major attributes your customers demand for the electronics in their vehicle doors, TriMark has the answer. Full functionality and state-of-the-art design and manufacturing means you can depend on TriMark electronics to be working many years down the road.



Power Lock/Unlock

TriMark's Power Lock Actuator has been tested to meet stringent performance requirements thus insuring a long life of trouble-free operation. It is provided with thermal protection as well as a varistor for electrical transient noise reduction. A clutch mechanism provides for soft starts/stops and allows for manual override with key.



Latches and Handles State Sensing

This latch offers an integrated magnetic switch to indicate closed making it best in class for sand and freeze resistant applications. We also offer rotary latches with micro switches to sense the position of the latch status



050-1901 / 050-1911



Security Systems and Accessory Options

Options can include wiring harnesses for all connection points, extra relays, extra FOB's, custom graphics, rocker switches, door contacts, security horns, power lock actuators, mounting brackets and hardware, door latches and door handles. Custom functionality can be facilitated with software programming to include specific inputs and outputs as well as security system integration.

Ignition Switch

- Contact rating: 50 Amp at 12 VDC continuous (battery)
- Standard positions: Accessory, Off, On (ignition/accessory) and Start
- Rugged and durable construction is environmentally sealed for long life



Keyless Start - Push Button Start Switch

- Once in the Cab, foot on the brake, Push the Start switch
- Authentication occurs a second time (for added security)
- Proprietary technology allows for mobilization of the vehicle



Electronic Access & Security

RF Keyless Entry

TriMark's e-ASK keyless entry systems adds further functionality, convenience, productivity and security to your Access Door. Your choice of several systems and components can provide radio frequency automotive style remote keyless entry or basic lock/unlock. Additional functionality includes the control of compartment doors and hoods, windows, ignition, lighting, pneumatics, hydraulics, horns and sirens plus other security systems.

- Advanced technology expertise
- Rugged and reliable systems for on and off-road applications
- Compatible with CAN SAE J1939, RV-C and other multiplexing protocol

Keypad Solutions

This cost-effective, simple, and integrated keypad offers increased security, convenience and functionality with reduced system installation complexity. Offering visual, audible and touch feedback, this user-friendly keypad can provide means to protect against vandalism and other tampering.

- Horizontal and Vertical configuration
- Discrete, J1939, or RVC configurations
- IP 67
- Pic 18 and Pic 32 Micro-Chip processor
- Coming Soon: 540-0125 e-PAD Power Keypad with H-Bridge

540-0100 e-PAD Keypad

540-0125 e-PAD Power Keypad

**540-0150
32 Bit CAN
Keypad**

**540-0200
Lighted Grab
Handle with
Keypad**



Radio Frequency

The entry level e-ASK RF system offers increased security, convenience and functionality in a cost-effective, simple and integrated keyless entry fob system.

The mid-level e-ASK system includes a user-friendly keypad to the RF system which offers increased security, convenience and functionality for the ultimate in keyless entry. The keypad provides visual, audible and touch feedback and can be mounted either horizontally or vertically. Available with either a sealed or unsealed controller.

TriMark's RF system offers several fob options: 4-button standard and cargo fob, 2-button fob and wall mount. Customized buttons and logos are available

- Unlocking requires a button press on the fob
- Controller electrically drives lock/unlock motor

500-1100 e-FOB System (Unsealed, Discrete)



500-1000 / 500-1050 e-ASK RF and Keypad Sealed and Unsealed Systems



530-0100 e-FOB Transmitter



Electronic Access & Security

Passive Keyless Entry (PKE)

To put it simply.....grab the handle and the system goes through an authentication process looking for the fob and the handle unlocks within 1/2 second.

In House software customization

- Ruggedized Sealed or Unsealed enclosures
- SAE J1939 Compatible/Wake on CAN
- Up to 3 Antenna circuits to suit applications
- Ability to immobilize the vehicle
- High Security (Modern Protocols)
- Configurable Inputs/Outputs

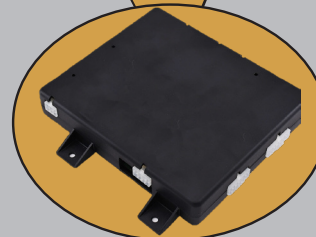
TriMark's proven 500-1300 / 500-1350 PKE systems when coupled with a capacitive handle allows for a true passive entry and push button start offering modern convenience. Proven electronics that meet the most stringent OEM Electrical requirements. FCC/IC/CE/UKCA compliant meeting all government regulations in North America and Europe. 12/24 Volt capable.

500-1300 / 500-1350 e-ASK PKE Systems (Passive Keyless Entry)

500-1300 Sealed System



500-1350 Unsealed System



TriMark's PKE Systems offers several fob options:

- Two fob systems are available; wire form key holder or high style chrome key holder
- Customized graphics possible (buttons and logo)

530-0400 PKE e-FOB



There are several options for exterior handles that can provide integrated capacitive sense, PKE circuit board and power lock/unlocking motor drive; including the 020-0870 Power Locking Pull Handle, the 030-0925 Flush Paddle Handle and the 040-0875 Push Button Handle (currently under development)

TriMark Capacitive Sense Enabled Products



Mechatronic Handles

Push Button and Pull Handle Family

TriMark's Modular Family of Pull and Push Button Handles. Providing the same mounting and space claim, OEM's can now offer different levels of features within a Pull or Push Button Product. Ranging from a basic mechanical handle, up to a full e-LOCK Handle with capacitive sense, both families offer good/better/best functionality.

Mechanical Key

Includes an integrated switch that indicates electrically the door lock status



040-0810 with
State Sensing

020-0800
Mechanical



Power Lock/Unlock

- Provides automotive function and convenience to your cabs and enclosures by adding power locking self-contained motor - provides remote locking
- Allows power locking/unlocking via a switch, or keypad
- PTC overload to protect motor against excessive heating
- Provides mechanical lock override with key in case of power disruption



040-0850
e-LOCK

020-0850
e-LOCK



Power Lock + Capacitive Sense (PKE) - Passive Keyless Entry

Similar to -0850 series with integrated Capacitive Sense and Passive Keyless Entry

- Provides 'Wake' functionality for system
- Exterior antenna is energized to initiate sequence
- If FOB serial # matches, handle unlocks
- Powerlock motor integrated into handle



040-0870 Power
Locking with
Capacitive Sense (PKE)

020-0870 e-LOCK
with Capacitive
Sense (PKE)



Door Closing Solutions

TriMark has two solutions for hard to close doors due to higher door seals, air compression or prebowed glass:

- With large vehicles, the door is higher than most vehicles and therefore you cannot swing the door closed without pushing on the door for the final closing effort.
- Conventional cab exhaust vents do not allow for enough air to pass through them

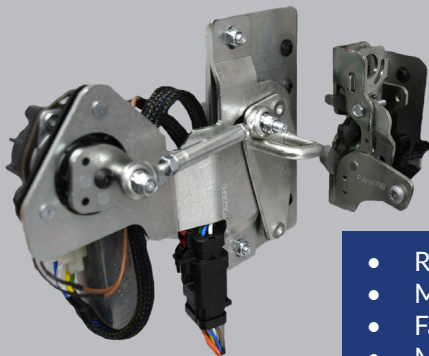
700-0200 Power Vent Window



Power Vent Window System is designed for large vent windows that utilize a single quarter turn window handle. Coupled with a state sensing door latch, the powered window automatically vents when the entrance door is opened, providing ease of door closing by reducing air compression. The powered window is also operable via a switch from the dash and it can also be manually operated or disengaged for emergency egress.

- Robust 1.75" (45mm) x 50 lbs (23kg) pull-in force @ 100k cycle
- Motorized linkage activated by door latch state change or by traditional door/light pin switch
- Mechanical release of window at any time via 1/4 turn handle
- Dash switch inputs for manual power window open/close
- Self calibrating software to mitigate vehicle production variances
- Software anti-pinch and window obstruction detection

700-0100 Power Cinching Strike



Power Cinching Strike is designed for large and heavy doors that have difficulty closing due to higher door seals, air compression or pre-bowed glass. The power cinching function is completed in a slow and smooth operation using a robust electric motor drive instead of relying on a door slam to close the door and fully latch.

- Robust 0.75" (19.0 mm) x 150 lbs (68 kg) pull-in force
- Motorized striker activated by door latch state change (primary position only)
- Fail safe mechanical release in the event of power loss
- Mechanical park position for strike allows complete system bypass

Future Technology

Smartphone Integrations: The next step in convenience of keyless entry is the interaction with smartphones replacing traditional key fobs. This technology is called "Ultra Wide-band." Smartphones with this capability will automatically connect to the vehicle on approach, can turn on lights, unlock doors, and enable start if an authorized user is in the driver seat.



Globally Located & Experienced



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1971 - 2023

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