



DATA SHEET

Pronto4™ Strap-on Autonomy System

SERIES 3



A Pronto4™ Strap-on Autonomy System Series 3 with optional attachable LCD display and keyboard.

The Pronto4™ Strap-on Autonomy System converts any existing ground vehicle or surface vessel — either steering-wheel or skid-steer — into an unmanned system in less than four hours. Featuring scalable autonomy, the Pronto4™ system* allows for vehicle control ranging from tele-operation to semi-autonomy. Whatever the situation, the Pronto4™ system provides a superior unmanned vehicle solution at an unrivaled price.

Pronto4™ System at a Glance

- Works on any steering-wheeled ground vehicle and surface vessel, as well as skid-steer vehicles
- Small, manageable single enclosure system
 - Includes actuation and processing (2.0 Ghz, Core2Duo, 1 GB RAM, Windows XP)
- **Scalable Autonomy™** (tele-operation to semi-autonomy)
- Optionally unmanned (dual-use)
- Meets specified MIL-STD-810E/F requirements
- Field installable and qualifiable
- Weighs less than 50 lbs. including internal battery
- Standard driving speeds to 60 mph
- Software, comms and video independent
- Uses 12 or 24 vdc power source
- Seamlessly change single enclosure among wheeled vehicles, tracked vehicles or surface vessels
 - Mechanical interchange configuration
 - Axis movement linkages
- Multi-mission capability (dull, dirty or dangerous)
- Can be used as an OCU for other Pronto4™ systems

** The Pronto4™ Strap-on Autonomy System and related technologies are patent-pending.*

Pronto4™ Strap-on Autonomy System

Series 3 Technical Specifications

- Actuators control vehicle steering, brake, throttle and transmission
 - Steering actuator runs off the vehicle's battery power
 - Brake and throttle response time of command (0-100-0%) is less than one second
 - Steering response time (lock to lock) when vehicle is moving is less than two seconds
 - 900° lock to lock steering angle (+ and - 450°)
 - Command latency about 150 ms
- Highly configurable mechanical linkage system
 - Factory configuration of actuator quantity, style and placement
 - Field configuration of linkage range and attachment
- Local, direct manual actuator control/override buttons
- Simplified installation
 - Reduced cable load from Series 2
 - One (1) power cable
 - Two (2) steering cables
 - One (1) vehicle integration
 - Cables color coded for easy identification
 - Small footprint
 - Actuator/control module measures 6.5" x 7.75" x 14"
 - Remote steering actuator
 - Remote vehicle integration, user interface (3" x 3" x 4")
- Up to six (6) simultaneous axes of control
 - Four (4) with 18 in/lbs of torque
 - Three (3) with 100in/lbs of torque
- Local battery for intelligent actuator shutdown
 - Automatic isolation/charging of internal battery system from vehicle battery
- Software configuration memory stays with vehicle for single module replacement
- Kairos Autonomi software:
 - Open architecture, Windows-based interface fully configurable with scripting languages
 - Kairos Autonomi software features:
 - On-line course generation
 - Off-line course generation
 - Semi-autonomous course following
 - Full tele-operation
 - Assisted tele-operation
 - Forward or backward operation
 - Course reversal
- Sealed electronics bay; enclosed mechanical bay
- Third-party pathing products can be integrated with the Series 3 system
- Multiple serial (RS-232/RS-422/USB) and power ports
- Available with Tyco CPC or MIL-C-38999 connectors
- Defined CPU volume with comms and power support
 - 6 inch Parvus/Eurotech PC/104 cardcage
 - ½ mini-ITX
 - Custom CPU within 170 cubic inch volume
- JAUS 3.2 interoperable
- Standard six (6) channel video multiplexer
- Available subsystems and options
 - Shock mount system
 - Wheel odometry
 - Video subsystem
 - Graphic and textual video annotation
 - 900 Mhz radio system with a 1-2 mile line of sight (LOS) communications range
 - Small LCD display with keyboard, mouse (integrates directly with Pronto4 module)
- Available internal options
 - Differential GPS
 - Commercial GPS
 - Magnetic compass
 - Image capture
 - 2nd CPU
 - Serial radio module (900mhz)
- System operates via a 115.2K baud stream
- Optional ancillary functions (lights, turn signals, horn, door locks, wipers, windshield fluid spray and electric windows, etc.)
- Meets specified MIL-STD-810E/F requirements
 - Operating and non-operating
 - Shock
 - Vibration
 - Thermal
 - Sand
 - Salt Fog
 - Altitude
 - Transport
- Built-in e-stop capability (DARPA compliant)
- Visual and audible alert capability (DARPA compliant)
- Series 3 MTTR is less than 30 minutes
- MTBF greater than 3000 hours
- Built-in self test
- On-board status indication
- PC I/O friendly cable fanout (VGA, key, mouse, USB serial, etc.)
- Remote wired pendant



The Pronto4™ system can be field installed in less than four hours and has been installed on a wide variety of vehicles, such as military HMMWVs.

Series 3 Features and Benefits

The Pronto4™ Strap-on Autonomy System provides a superior product at an unrivaled price

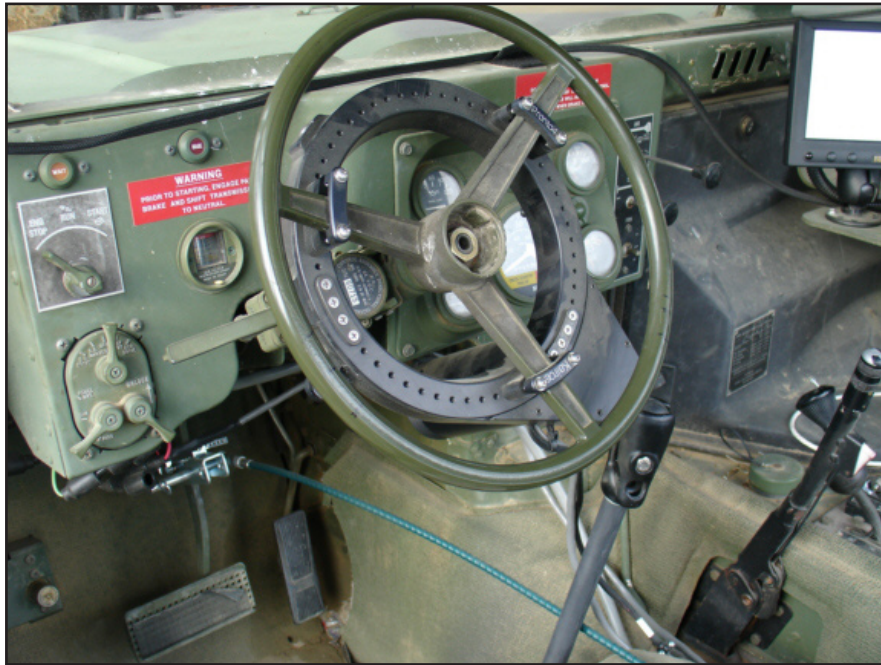
- Field installable in less than four (4) hours
 - Utilizes the existing vehicle supply chain
 - Eliminates the need for depoting
 - Facilitates local storage of auxiliary parts for easy component exchange
- Reduces total cost of ownership (logistics and system costs)
- No special equipment needed for kit transportation
- City, highway and off-road dual-use: human / drive-by-wire
 - Tapping the brake returns the vehicle to manual mode (just like cruise control driving)
 - Eliminates the need for special training or button pushing to achieve manual mode
- High-quality performance
- Minimally invasive installation
 - Four (4) holes are drilled into the vehicle floor
 - Requires minimal space inside the vehicle/vessel
 - No de-installation required for manual use
 - Vehicle/vessel cannot be visually identified as unmanned by foe
 - Vehicle/vessel exterior is un-modified
- COTS technologies
 - Reduces end of life and supply chain issues
- Compact, modularly-constructed hardware system with adaptable software capability
- Scalable manufacturing to match build standard of the vehicle; best commercial practices to MIL-STD-810E/F
- Uninstalled kit fits in a 24" x 20" x 12" envelope

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the ONLY

Common Robotics Platform

for existing ground vehicles and surface vessels



A Pronto4™ system installed in a military HMMWV.

Pronto4™ System Series 3 Applications

Testing community
Sensors, platforms (MRAPs etc.)
Moving land targets (range testing)
Common robotics system
Convoy leading/following
Theater and covert operations
Security (border, perimeter, harbor, ...)
Surveillance
Countermine warfare
CBRNE
Communications/data relay

Order Your Series 3 Today

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