

## Dakota Digital VHX-1018-K-W

# Dakota Digital VHX-1018-K-W Universal Recessed Oval Analog Gauge System

Instruction Manual

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of your Dakota Digital VHX-1018-K-W Universal Recessed Oval Analog Gauge System. Designed for automotive applications, this system integrates essential vehicle information into a compact and visually appealing unit. Please read this manual thoroughly before installation and operation to ensure proper function and longevity of your gauge system.

## 2. PRODUCT OVERVIEW

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The Dakota Digital VHX-1018-K-W system features a recessed oval design, measuring 11.4 inches wide by 4.4 inches tall and 2 inches deep. It combines analog gauges with digital message centers, offering comprehensive vehicle monitoring. The unit includes a chrome bezel and is presented in a black alloy style with white backlighting for clear visibility.

### Key Features:

- Fully lit needles and backlit faces for enhanced visibility.
- Highly visible LCD message centers for digital data.
- Precision stepper motors for accurate readings.
- Solid-state sensors for unparalleled accuracy.
- User-customizable display feedback.

### Included Components:

- VHX-1018-K-W Gauge Cluster
- Chrome Bezel
- Oil Pressure Sender (1/8" NPT)
- Water Temperature Sender (1/8" NPT with bushings for 1/4", 3/8", 1/2" NPT, 12mm, and 16mm applications)

- Speedometer Pulse Generator (replaces GM style speedometer cables with a 10ft harness)



Figure 2.1: Front view of the VHX-1018-K-W gauge system, displaying speedometer, tachometer, oil pressure, water temperature, voltmeter, and fuel level gauges, along with digital readouts for odometer and clock.



Figure 2.2: Angled view of the gauge system, showcasing the recessed oval design and chrome bezel.



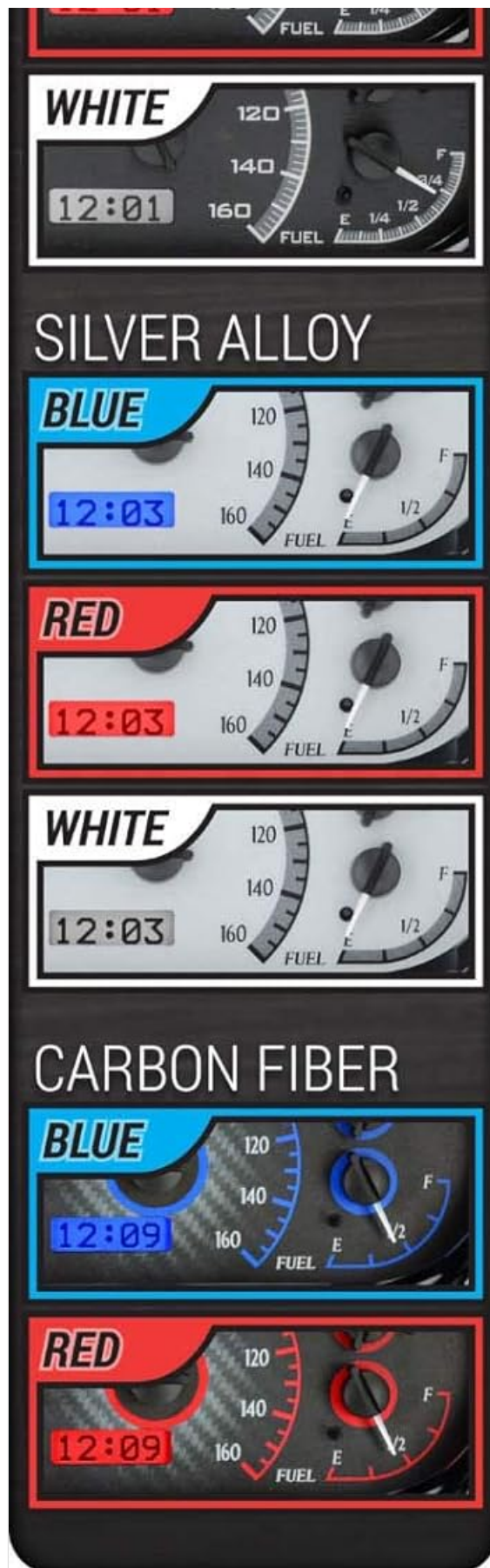


Figure 2.3: Rear view of the gauge system, illustrating the mounting studs and the main electrical connector port.

### 3. SETUP AND INSTALLATION

Installation of the VHX-1018-K-W system involves mounting the gauge cluster and connecting the various senders and wiring harnesses. Due to the complexity of automotive electrical systems and the precision

required for sensor installation, professional installation is recommended.

## General Installation Steps:

1. **Mounting the Gauge Cluster:** Secure the recessed oval gauge cluster into the dashboard opening. Ensure a snug fit and proper alignment.
2. **Connecting Senders:**
  - **Oil Pressure Sender:** Install the 1/8" NPT oil pressure sender into the engine block or an appropriate oil gallery.
  - **Water Temperature Sender:** Install the 1/8" NPT water temperature sender into the engine's cooling system. Use the provided bushings to adapt to 1/4", 3/8", 1/2" NPT, 12mm, or 16mm ports as needed.
  - **Speedometer Pulse Generator:** Connect the speedometer pulse generator to replace the existing GM-style speedometer cable. Route the 10ft harness to the gauge cluster.
3. **Electrical Connections:** Connect the main wiring harness to the back of the gauge cluster. Ensure all power, ground, and signal wires are correctly connected according to the detailed wiring diagram provided with your product packaging.
4. **Testing:** After all connections are made, perform initial power-up tests to verify functionality of all gauges and digital displays before finalizing the installation.

Refer to the comprehensive wiring diagram and specific vehicle instructions included with your product for detailed, step-by-step installation procedures.

## 4. OPERATING INSTRUCTIONS

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The VHX-1018-K-W system provides both analog and digital readouts for critical vehicle parameters. The system powers on with the vehicle's ignition.

### 4.1 Analog Gauges

The following analog gauges provide real-time readings:

- **Speedometer:** Displays vehicle speed from 0 to 160 MPH.
- **Tachometer:** Displays engine RPM from 0 to 8000 RPM.
- **Oil Pressure:** Displays engine oil pressure from 0 to 80 psi.
- **Water Temperature:** Displays engine coolant temperature from 100 to 260°F.
- **Fuel Level:** Displays fuel tank level (Empty, 1/4, 1/2, 3/4, Full).
- **Voltmeter:** Displays vehicle electrical system voltage from 9 to 17 VDC.



Figure 4.1: Gauge system with indicators active, demonstrating the visual alerts.

## 4.2 Digital Message Centers

The integrated LCD message centers provide additional digital information and performance metrics.

### Standard Displays:

- **Odometer:** Displays total mileage (one-time user settable, Million Mile capacity).
- **Dual (A/B) Trip Meter:** Tracks two independent trip distances (0-9,999.9 units).
- **Clock:** Displays time in 12-hour format.

### Performance Meters:

- **0-60 MPH Timer:** Measures acceleration time from 0 to 60 MPH (or 0-100 km/h).
- **1/4 Mile Time:** Records the time taken to complete a quarter-mile.
- **1/4 Mile End Speed (Trap Speed):** Records the speed at the end of a quarter-mile.
- **High Speed Recall:** Recalls the maximum speed achieved.
- **High RPM Recall:** Recalls the maximum engine RPM achieved.

## 4.3 Built-In Indicators

The system includes various built-in indicators to alert the driver:

- **Turn Signals:** Left and Right indicators.
- **High Beam:** Indicator for high beam headlights.
- **Check Engine:** Engine diagnostic indicator.
- **Parking Brake:** Parking brake engaged indicator.
- **Cruise Control:** Indicates when cruise control is active (On/On & Engaged, if vehicle equipped).
- **Gear Position:** Displays current gear (requires optional GSS-3000 sensor, sold separately).
- **4x4 and Wait to Start:** Indicators for 4x4 engagement and diesel engine pre-heat (if vehicle equipped).

## 5. MAINTENANCE

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The Dakota Digital VHX-1018-K-W gauge system is designed for durability and minimal maintenance. To ensure optimal performance and appearance:

- **Cleaning:** Use a soft, damp cloth to clean the gauge faces and bezel. Avoid abrasive cleaners or solvents, as these can damage the display and finish.
- **Electrical Connections:** Periodically check all electrical connections for tightness and corrosion. Ensure

all wiring is securely routed and free from potential damage.

- **Sensor Integrity:** Inspect sensor connections and mounting points during routine vehicle maintenance to ensure they remain secure and free from leaks or damage.

## 6. TROUBLESHOOTING

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If you experience issues with your VHX-1018-K-W gauge system, consider the following general troubleshooting steps:

- **No Power/Display:** Check the main power and ground connections. Verify that the vehicle's ignition is on. Check for blown fuses in the vehicle's electrical system.
- **Inaccurate Readings:** Ensure all senders are correctly installed and securely connected. Verify that the sender wires are not damaged or shorted. For speedometer issues, confirm the pulse generator is functioning and calibrated correctly.
- **Flickering Display:** Check for stable power supply and proper grounding. Loose connections can cause intermittent display issues.

For persistent issues or complex diagnostics, it is recommended to consult a qualified automotive technician or contact Dakota Digital customer support.

## 7. SPECIFICATIONS

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Parameter	Value
Model Number	VHX-1018-K-W
Dimensions (L x W x H)	11.4" x 4.4" x 2" (approx. 28.96 x 11.18 x 5.08 cm)
Item Weight	26 pounds (approx. 11.79 kg)
Material	Metal
Speedometer Range	0-160 MPH
Tachometer Range	0-8000 RPM
Oil Pressure Range	0-80 psi
Water Temperature Range	100-260°F
Voltmeter Range	9-17 VDC
Fuel Level Display	E, 1/4, 1/2, 3/4, F
Odometer Capacity	Million Mile

## 8. WARRANTY AND SUPPORT

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The Dakota Digital VHX Series instrumentation systems are backed by an unrivaled limited lifetime warranty. This warranty covers defects in materials and workmanship under normal use and service.

For warranty claims, technical assistance, or further support, please contact Dakota Digital directly. Refer to the contact information provided in your product packaging or visit the official Dakota Digital website for the most current support resources.

