

# DESIGNCORE™ RVP-DM50x INDUSTRIAL RUGGED DEVELOPMENT KIT

## Rugged Vision Platform (RVP) with Texas Instruments Digital Media Vision Processor

### SPEED DEVELOPMENT OF VISION-BASED SYSTEMS

The DesignCore™ RVP-DM50x Industrial Rugged Development Kit shortens development time of vision-based systems for industrial, transportation, materials handling, and robotic applications.

The Development Kit is built on the DesignCore™ Rugged Vision Platform (RVP) module. The module contains an advanced digital media vision processor from Texas Instruments and runs D3 Engineering's advanced vision software framework.

### READY TO USE

The Industrial Rugged Development Kit is ready to use right out of the box. It includes an RVP module with a TI DM50x processor, along with rugged camera modules, display, cables, software, and calibration tools.

Once verified on the test platform provided, the kit can be easily de-mounted and installed on your test vehicle, robotic system, or other industrial platform.

### FULL SUPPORT PACKAGE

The base support package includes optimized and verified hardware and software, providing a known-good launch point for design and development.

A single-use sublicense is included in the kit for all TI and D3 firmware and application libraries as well as a framework that allows immediate development of autonomous applications. Software updates and access to releases are included for one year.



A fully functioning evaluation system speeds field testing and development of multi-camera, real-time vision applications requiring intensive video analytics.

### FEATURES

D3 Rugged Vision Platform (RVP) with TI Digital Media Vision Processor

Delivered running Surround View application on wheeled test platform (can be easily de-mounted)

Four FPD-Link III camera modules

HD video display

FPD-Link, CAN, Isolated IO, Gigabit Ethernet, Serial/USB, uSD card, and JTAG connectivity interfaces

12VDC nominal input power

Compact, rugged packaging for field testing

Ready for rapid development to your requirements

### APPLICATIONS

**Industrial Vehicles**

Front camera

Surround View

Surround View + car black box (CarBB)

Smart rear camera

Radar

Operator monitoring

Camera monitoring systems (CMS)/mirror replacement

**Autonomous Shipping and Transportation Systems**

**Materials Handling Systems**

**Video Analytics**

Object detection

Sign recognition

Sparse/dense optical flow

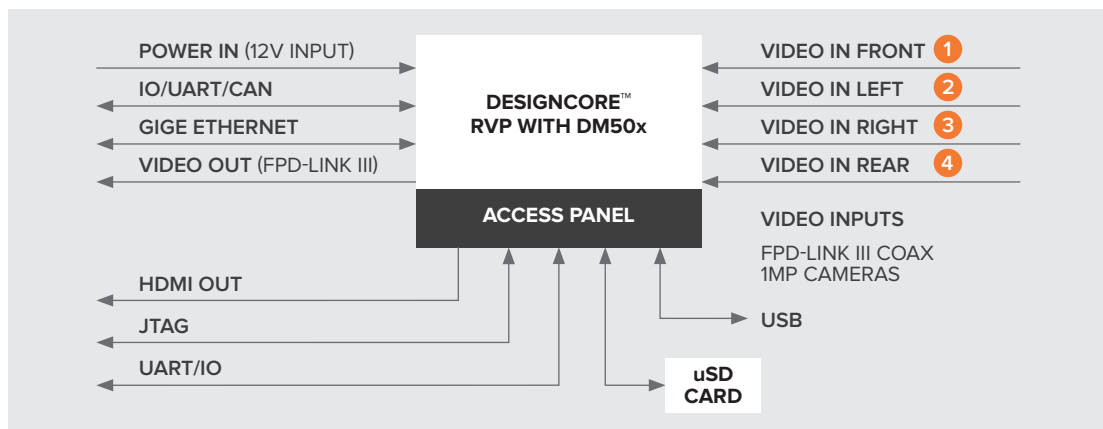
Edge detection

Structure from motion

Forward collision warning

Object classification

### SURROUND VIEW USE CASE ON DEVELOPMENT KIT



## SPECIFICATIONS

	Minimum	Nominal	Maximum	Units
<b>SYSTEM INPUT CHARACTERISTICS</b>				
Input Voltage	8	12	20	Volts DC
Input Voltage Protection		40	60 <sup>1</sup>	Volts DC
Input Reverse Voltage Protection			-20	Volts DC
Input Current (no cameras)	0.22	0.34		Amps
Input Current (cameras)		0.60		Amps

<sup>1</sup> Time limited, see component rating.

<b>DM50x PROCESSOR (2GB DDR3)</b>	
Memory	512MB NOR, 512KB FRAM
Camera Interface	4 x FPD-Link III (CSI2)
Cameras	Ruggedized 1MP digital camera DesignCore™ Platform with global shutter and wide field of view lens. Other sensors integrated upon request.
Connectivity	UART, CAN, ISO GPIO, Gbit Ethernet, uSD card, JTAG, QSPI
Display	FPD-Link III and HDMI
Power	8–40VDC
Environment	Rugged enclosure with mount points Operating temperature -40C to 85C (105C option)
Firmware	TI Vision SDK, TI Processor SDK, and D3 application framework

*For additional details and specifications, please contact us.*

## ACCELERATE TIME TO MARKET

D3 Engineering will leverage our industry-proven DesignCore™ Platforms to meet your unique product requirements, while minimizing technical- and schedule-risk for your development program.

**CALL: 1-585-429-1550**

**EMAIL: [sales@D3Engineering.com](mailto:sales@D3Engineering.com)**

**VISIT: [D3Engineering.com](http://D3Engineering.com)**