J1939 Router
A-J1939R

The J1939 Router enables data exchange between SAE J1939 devices and a Logix controller via EtherNet/IP™.

The J1939 Router provides auto extraction and scaling of SPNs (Suspect Parameter Number) for standard SAE (Society of Automotive Engineers) defined PGNs (Parameter Group Number). These SPNs can then be mapped to Logix UDTs Tags. This allows the user to create a J1939 Router project with all the required PGNs and then export a Logix L5X file with the required Tags and UDTs for that specific J1939 Router project. This L5X file can be imported into Logix.

The J1939 Router allows the user to select standard specification defined PGNs (e.g. PGN 61444 – Electronic Engine Controller 1) from a list in the Slate software. This will automatically build the mapping and scaling for each SPN which can be downloaded to the module. The user can then export a Logix UDT from the Slate software which maps the PGN selected. This can be imported into a Logix application and used as a destination tag for the configured PGN (greatly simplifying the application setup).

Features

❖ SAE J1939 to Logix

❖ Bidirectional Data Exchange

❖ PGN Browsing and Auto scaling

❖ Direct-To-Tag technology for Logix controllers

❖ Advanced diagnostics including packet capture

Configuration

❖ The Slate Configuration Utility software is used for configuration and troubleshooting of the module. The stand-alone configuration utility allows users to define the setup and configuration of the J1939 Router module, connections with controllers and devices.

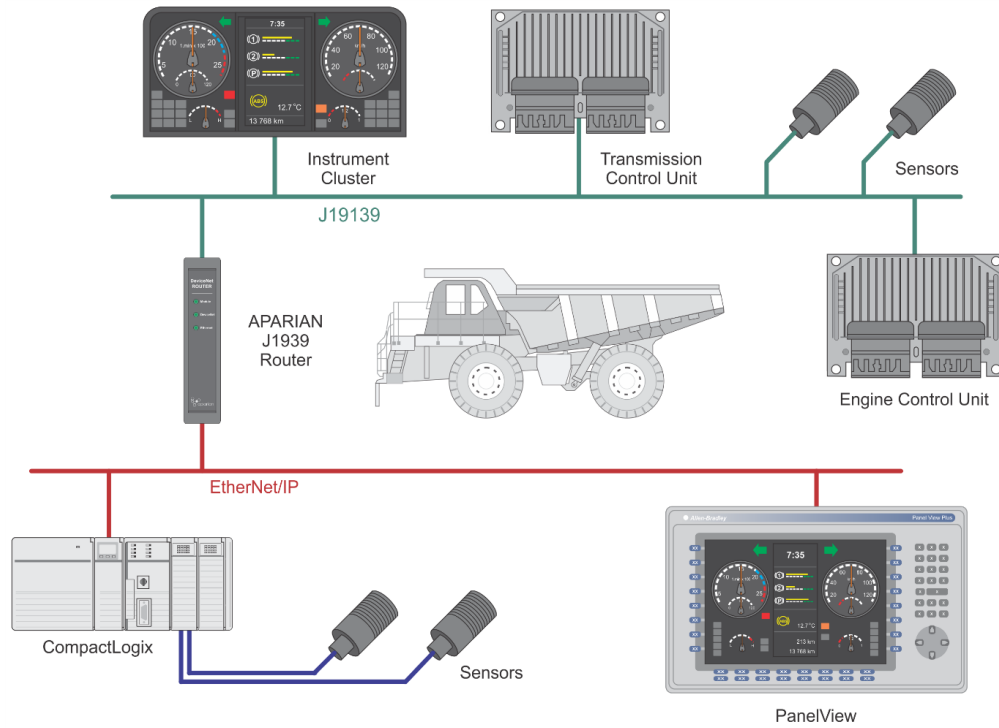❖ The configuration utility can be downloaded from www.prosoft-technology.com

Figure 1 - Typical architecture using the J1939 Router

A built-in webserver provides detailed diagnostics of system configuration and operation, including the display of J1939 operation and communication statistics, without the need for any additional software.

The figure below provides an example of the typical network setup for connecting various J1939 devices to a Logix controller via the J1939 Router.
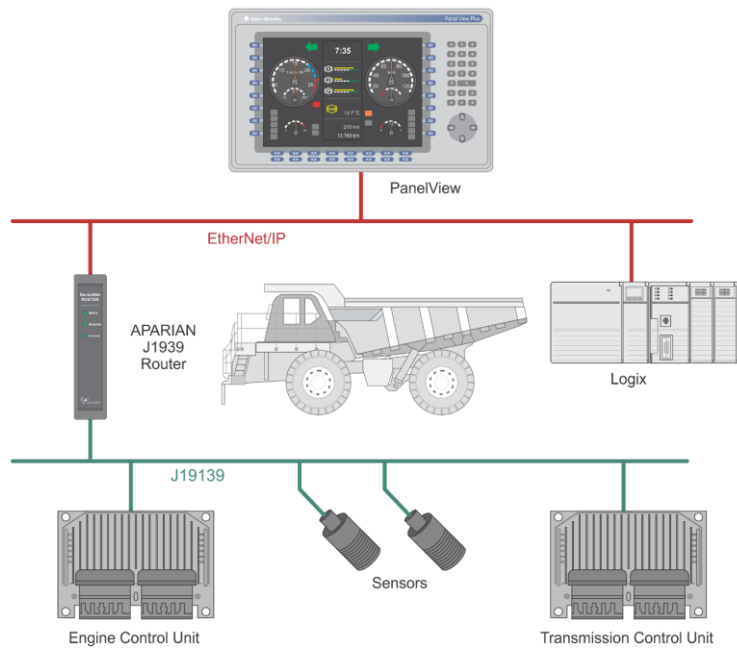

Figure 2 - Example of a typical network setup for connecting J1939 device to Logix

The next example illustrates how various sensors connected to Logix can produce J1939 data for the consumption of an Engine Control Unit (ECU).
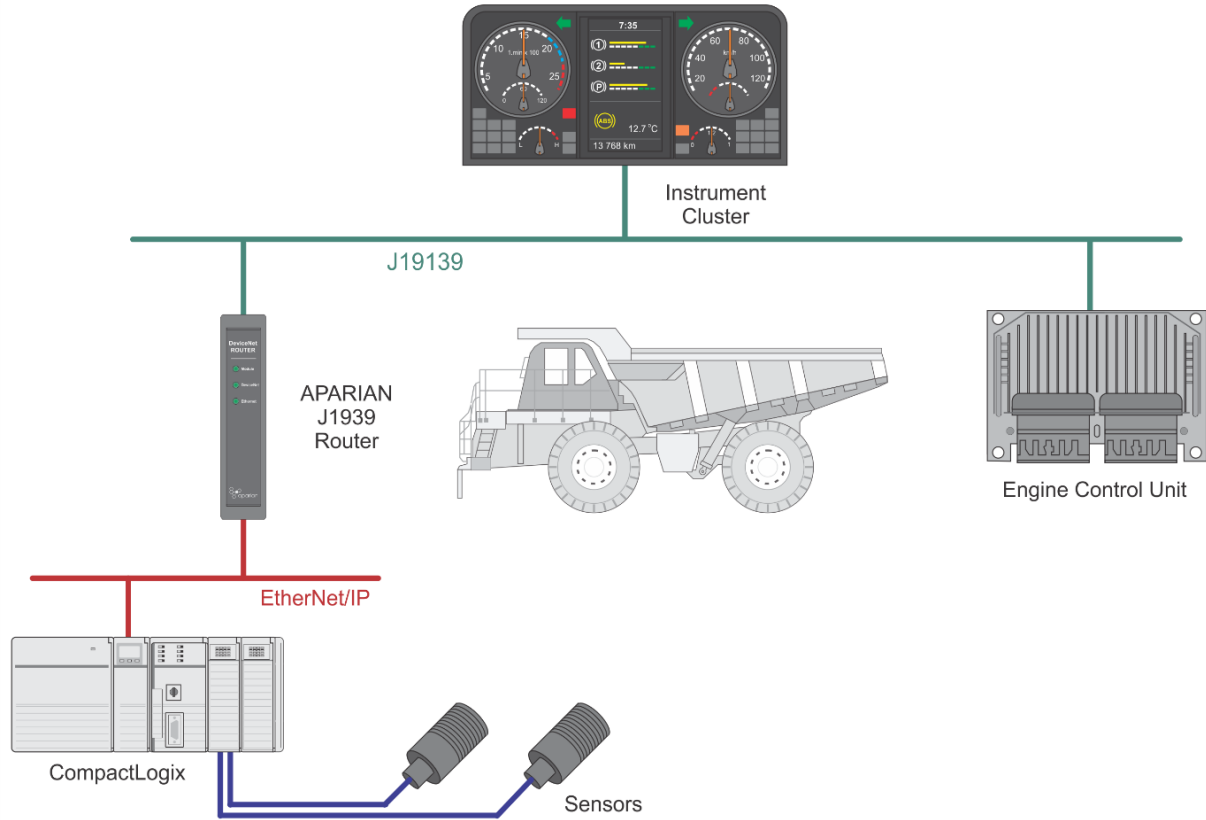

Figure 3 - Logix producing J1939 data

Specifications

EtherNet/IP Network

Specification	Rating
Connector	RJ45
Conductors	CAT5 STP/UTP
ARP Connections	Max 20
TCP Connections	Max 20
CIP Connections	Max 10
Communication Rate	10/100 Mbps
Duplex Mode	Full / Half
Auto-MDIX Support	Yes

J1939 Network

Specification	Rating
Connector	5-way terminal, 5.08 mm pitch.
Max PGN Mapping	40
Max PGN Size Supported	480 bytes
Supported Baud Rates	250k, 500k
Arbitrary Address Capable	Yes
Support for Multi-packets	Yes
Configurable J1939 Name	Yes

Hardware

Specification	Rating
Power Supply	Input: 10 to 28 VDC, (70 mA @ 24VDC)
Power Consumption	1.7 W
Dimensions (H x W x D)	101.0 x 22.5 x 120.0 mm
Connector	5-way terminal, 5.08 mm pitch.
Conductors	24 to 18 AWG
Enclosure Rating	IP20, NEMA/UL Open Type
Temperature	-20 to 70 °C
Humidity	0 to 95% RH, non-condensing
Earth Connection	Yes, terminal based
Emissions	IEC 61000-6-4
ESD Immunity	EN 61000-4-2
Radiated RF Immunity	IEC 61000-4-3
EFT/B Immunity	IEC 61000-4-4
Surge Immunity	IEC 61000-4-5
Conducted RF Immunity	IEC 61000-4-6

Agency Approvals & Certifications

Please visit our website: www.prosoft-technology.com

Where Automation Connects™

Ordering Information

To order this product, please use the following:

J1939 Router

A-J1939R

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to:
www.prosoft-technology.com
and select *Where to Buy* from the menu.