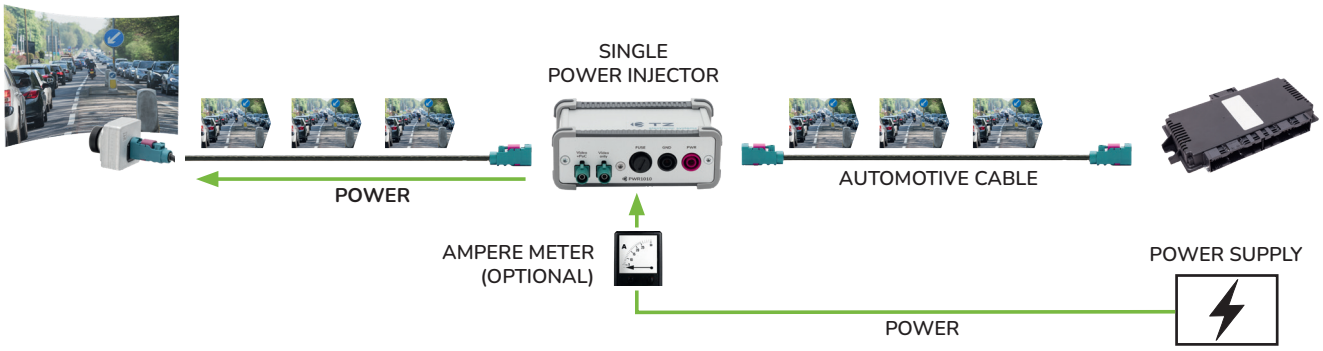
TZ
electronic systems

POWER INJECTOR

Variable power injection for Automotive cameras

The answer to your challenges is here

Variable power injection for Automotive cameras



Modern vehicle cameras have a single connector with a minimum number of wires. In some cases, a single-ended connection is used to supply the camera with power, transmit communication data and send the video signal at the same time.

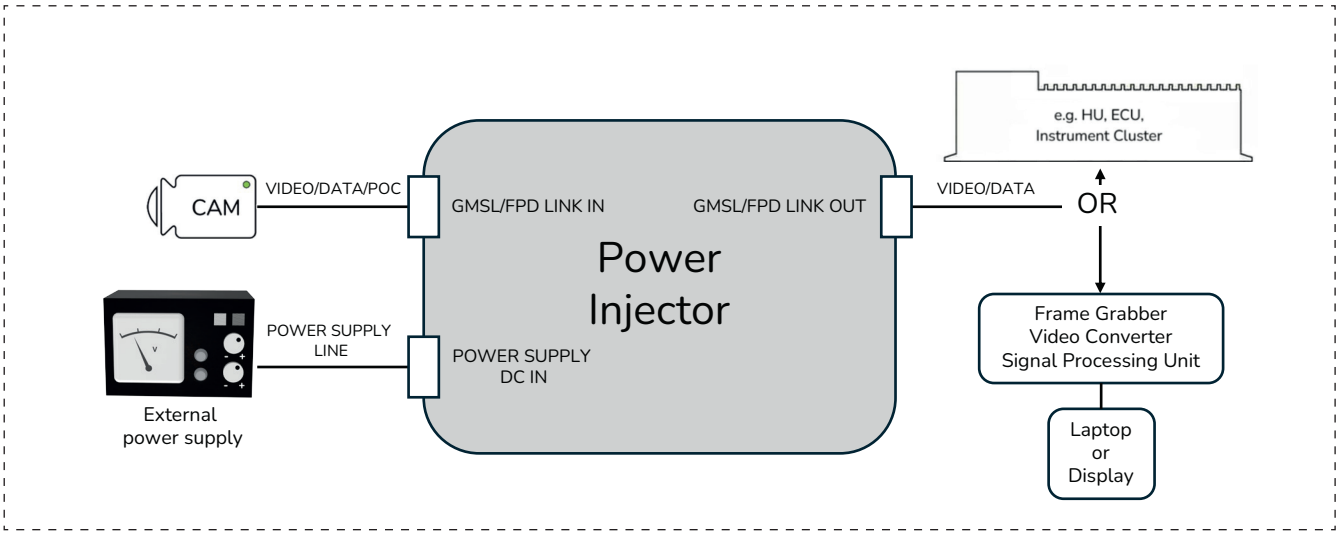
The TZ Power Injectors were developed to enable flexible commissioning and testing of these cameras. The supply of a voltage to automotive video links, with simultaneous video and data transmission, enables the integration of modern cameras into systems that do not provide a power supply.

With the TZ Power Injectors, a vehicle camera is supplied with a required voltage from an external power supply unit via standard connectors (4mm banana socket). This simple design also enables the power consumption to be monitored with precise laboratory measuring devices.

This allows the following to be checked:

- Operation at minimum and maximum supply voltage -> Checking the specification regarding the specified voltage supply ranges (min / max)
- Power consumption depending on the supplied voltage
- Testing of
  - Voltage swings
  - Voltage drops
  - Over- and undervoltage

General Device Structure



Typical Customer Applications

- Variable power supply of cameras via the coaxial connection (PoC camera)
- Commissioning of cameras on test devices that do not provide voltage
- Decoupling the camera power supply from the original source
- End-of-line testing of components in production
- Automated hardware in the loop testing
- PV Product Validation + DV Device Validation

TZ.PWR Features

TZ offers suitable power injectors for the various link technologies available on the market, such as GMSL, FPD-Link, APIX or GVIF. The impedance-adapted signal routing and controlled manufacturing processes result in minimal attenuation on all signal lines. Further customer-specific adaptations, e.g. modified PoC filters, are possible at any time.

- **TZ Power Injection:**
  - Injection of variable voltages for automotive video links like GMSL, FPD-Link, APIX or GVIF
- **DC-Entkopplung**:
  - The unidirectional power supply ensures that only the connected camera is supplied with power, while the connected ECU continues to receive the communication and video data
- **TZ Fuse**:
  - Each channel has a replaceable fuse and offers a high degree of safety when commissioning the connected components

The TZ product range includes single-channel power injectors that support different link technologies.

Optionally, multi-channel customer-specific solutions can also be offered, which enable features like switching individual cameras (TZ Power Switch), measuring the power consumption of the individual camera via a shunt resistor (TZ Shunt) and can be controlled using standardized commands via a USB or Ethernet interface (TZ Control).

Both ranges of products can be adapted to customer-specific connectors.

Technical Data

Automotive Video Links	GMSL1, GMSL2, FPD-LINK III
Power supply	9VDC ... 16VDC (PWR1010, PWR2010) 9VDC ... 36VDC (PWR3010)

Signal Processing Unit Variations

Part No	Technology	Max. Output Current	Number of Outputs	Output Connectors
PWR1010	GMSL	630 mA	1	FAKRA
PWR2010	GMSL2	500 mA	1	FAKRA
PWR3010	FPD-LINK III	500 mA	1	FAKRA

PWR1010

PWR2010

PWR3010

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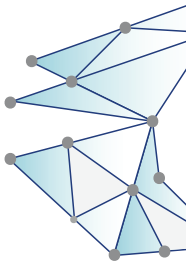
we empower
automotive video
innovations



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