



FTcase eliminates the complexities of gaseous hydrogen refueling and simplifies the process for all markets. This groundbreaking product enables the rapid deployment of hydrogen-powered vehicles and heavy-duty equipment, eliminating a major barrier to widespread hydrogen adoption:

The complete lack of accessible and convenient fueling infrastructure.

KEY CAPABILITIES

Simple and Versatile Operation

Portability & Ease of Use: Designed for single-operator deployment, the FTcase transforms any gaseous hydrogen supply into a complete fueling station, enabling on-site refueling without the need for fixed infrastructure or hydrogen expertise.

Safety & Reliability: Integrates advanced fail-safe systems and automated software-controlled technology to minimize risks associated with hydrogen fueling.

Advanced Communication & Monitoring

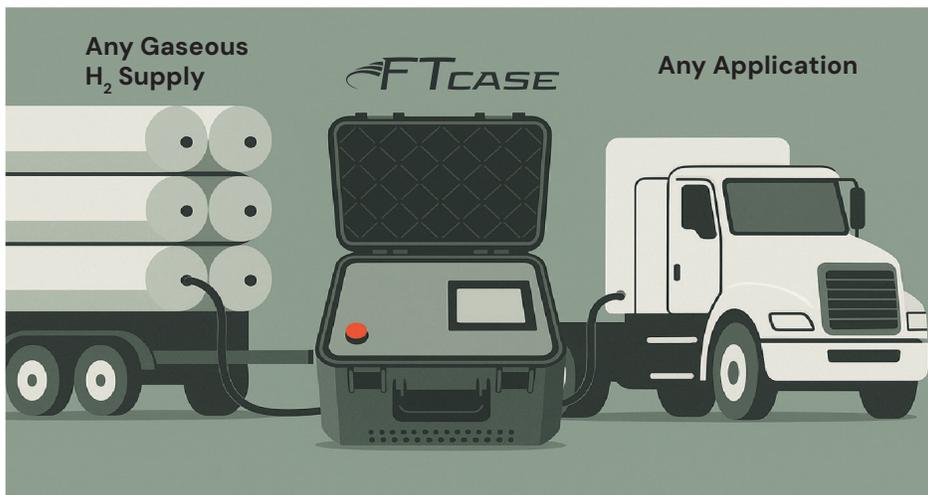
Comm Fill: The FTcase utilizes active communication capabilities to complete SAE J2799 protocol fills, ensuring standardized and efficient hydrogen fueling processes.

Proprietary Operating Software: Equipped with ZEI's proprietary operating software, the FTcase enables remote fleet monitoring, providing operators with real-time insights and control over fueling operations.

Can fuel any of this equipment in approximately 20 minutes or less.



*Given adequate source pressures and volumes



APPLICATIONS

- Stationary Power Generation
- Combatant and Patrol Craft
- Commercial Vessels
- USV/UUV/UAV
- Heavy-Duty Transport Vehicles
- Light-Duty Automotive Vehicles
- Transit Buses
- Locomotives
- Construction/Agriculture Equipment

FTCASE Technical Specifications



U.S. Patent 12,092,268

Active Communications

Communication Protocol	Active communication per SAE J2601 utilizing the SAE J2799 data protocol
Communication Interface	Infrared receiver integrated into fueling nozzle
Fill Automation	Over temperature protection Fill optimization using ZEI's proprietary fill algorithm Abort signal detection from the vehicle to end the fueling

Physical Specifications

Dimensions	21"W x 16"D x 11.7"H
Weight	95 lbs
Power Requirements	Standard 120 VAC outlet
Weather Resistant Rating	IP65 with lid closed, IP54 with lid open
Transportation	2 man lift, 1 man transport
Vent Stack	Included
User Interface	HMI Touchscreen
Operational Temperature	30F to 115F [-1C to 46C]
Durability	Hardened case with interior dampening
Connections	Keyed quick connects

Performance

Min / Max Flow Rate Range	0.25 kg/min – 6 kg/min
Max Source Pressure	1000 bar (given properly rated hoses)
Fill Pressure	Up to 1000 bar
Media	Gaseous
Flow Metering	Dispensed hydrogen estimator included
Customizations	Customizable filling profiles + filling procedures

Safety

Safety Automation	Automatic leak check, shutdown and purging
Minimum Electronics Classifications	NEC Class 1 / Div 2 and IEC Zone 1