



# TracBlock™ Solutions

- TracBlock 1 MW
- TracBlock 2 MW
- TracBlock 3 MW
- TracBlock 4 MW



Pentadyne TracBlock™ high-power solution provides increased acceleration, voltage support and capacity for:

1. Traction Power
2. Voltage Support & Stability
3. Receptive Load

### Technology Benefits:

- High Power, High Performance
- Compact, Integrated Package
- Flexible Integration

### Customer Benefits:

- Faster Acceleration
- Address Low Voltage Locations
- Increase Energy Efficiency
- Reduce Carbon Footprint
- Extend Equipment Life
- Modular / Re-locatable

### Specifications

Rated Power* (DC)	1 to 4 MW
Discharge duration (50% Load)	20 seconds
(100% Load)	10 seconds
Useable Energy Storage	10,000 to 40,000 kW.s)
Cycle Capability	Full Power - Every 5 minutes*
Total Weight	12.5 tons to 100 tons
Operating Temperature	-20°C to +40°C
Non-operating Temperature	-20°C to +80°C
Input/Output Voltage	450 to 750 Vdc
Output Voltage Regulation	+/- 5%
Design Life	20 Years
Typical Idling Consumption	3 to 24 kW

\* Cycle rating for rush hour periods; System can be sized to increase cycle rating

### DESCRIPTION

Pentadyne TracBlock is the latest flywheel voltage support solution using levitated carbon fiber flywheel technology.

TracBlock offers a green and sustainable energy storage solution with superior performance to batteries and ultra capacitors while improving the overall efficiency of the traction power network.

Contact Pentadyne to discuss the details of your application.

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## Product Features

### Voltage Support Solution:

- Flywheel Voltage support systems
- Rated for 1 to 4MW output power

### ISO Container Size Housing:

- Insulated, Climate Controlled
- Internal Lighting,
- Treated to prevent corrosion

### Electrical:

- AC Panel Board to feed ancillaries (Air Conditioning, Lighting)
- DC Panel Board to feed flywheel systems
- DC Breaker
- Inductor and EMI Detection
- Grounding connection

### Optional Specifications include but are not limited to:

- Remote system monitoring
- Fire and Security Alarm Monitoring

### Technology Benefits:

- *High Power, High Performance*
- *Compact, Integrated Package*
- *Flexible Integration*

### Customer Benefits:

- *Faster Acceleration*
- *Address Low Voltage Locations*
- *Increase Energy Efficiency*
- *Reduce Carbon Footprint*
- *Extend Equipment Life*
- *Modular / Re-locatable*



### TRACTION POWER APPLICATION

Pentadyne TracBlock charges (flywheel spins up) from the third rail or catenary system.

TracBlock discharges (flywheel spins down) to support the track voltage as the train passes by or accelerates from the station.