Locomotive Systems
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Overview

Head of Train Devices is available in both a console mounted model as well as an integrated model.

When used in conjunction with the Siemens End of Train Device (EOT) it provides information to the locomotive engineer about the operational conditions / statuses of the train.

Some of the statuses include:

- Brake pipe pressure (psi)
- Arming Status (Emergency feature enabled or disabled)
- Communication Status (Good / Comm-Loss, rear-to-front or front-to-rear)
- Motion Detection (Moving or stopped)
- High Visibility Marker (HVM) Status (On, off or defective)
- Brake value (Normal, emergency or defective)
- Battery State Status (Good, low or dead)
- Battery Charge Status (% depleted, in charge units)

Features

- (12) digit key pad
  (Available on console models only)
  Allows for easy entry of data such as the End of Train (EOT) marker ID number and locomotive wheel size as well as an illumination adjustment

- (16) “plain text” message display
  (Available on console models only)
  - Communications state between the Head of Train (HOT) and End of Train (EOT) markers
  - Prompting the locomotive engineer when to enter updated information such as an End of Train (EOT) marker ID number.
  - Locomotive wheel size and axle drive configuration

- Accelerometer / Odometer led display.
  (Available on console models only)
  (Accessible by a pushbutton on the front panel)

- Internal Event Recorder Records the last 1600 HOT / EOT events

- External Event Recorder Communications
  An event recorder communications port to allow Head of Train (HOT) / End of Train (EOT) information to be sent to the on-board event recorder.

- All Head of Train (HOT) devices offer direct mechanical and electrical replacement of all other locomotive manufacturer’s comparable equipment such as General Electric® IFC, EMD/Rockwell® ICE™ or FIRE™ systems.
**NYK:V3465/R**

- **Full Size Console Unit**
  - Weight is approx. 11 lbs. (4.99 kg) including mounting foot
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
  - 13.56" (34.44 cm) Wide x 8.41" (21.36 cm) Deep x 3.85" (9.78 cm) Tall
  - Includes Ritron® dual band radio
  - (1) NYK:QP-52321 mounting plate
  - NYK:QP-16371 PUMP® software update program
  - Bootloader firmware
  - Application firmware

**List Price**

$4,250.00

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**NYK:VK-3465/R**

- **Full Size Console w/ Setup Kit**
  - (1) NYK:V3465/R Full Size Console Unit
  - (1) NYK:Q9266/20 20' (6 m) antenna cable
  - (1) Instruction manual
  - (1) NYK:Q9077/15C Input / Power cable

**List Price**

$4,972.00
Compact Console Unit
- Weight is approx. 6 lbs. (2.72 kgs.) including mounting foot
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 10.00” (25.40 cm) Wide x 9.25” (23.50 cm) Deep x 4.25” (10.80 cm) Tall
- Includes Ritron® dual band radio
- (1) NYK:QP-52321 mounting plate
- NYK:QP-16371 PUMP® software update program
- Bootloader firmware
- Application firmware

Compact Size Console Unit w/ Setup Kit
- (1) NYK:V3460 Full Size Console Unit
- (1) NYK:Q9266/20 20’ (6 m) antenna cable
- (1) Instruction manual
- (1) NYK:06955 450 MHz - 465 MHz antenna
- (1) NYK:Q9077/15C Input / Power cable

List Price

NYK:V3467/R
List Price $ 4,367.00

NYK:VK-3467/R
List Price $ 5112.00
**Integrated Unit**
- Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot
- Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 2.5” (6.35 cm) Wide x 11.25” (28.58 cm) Deep x 9.0” (22.86 cm) Tall
- Includes Ritron® dual band radio
- NO mounting plate
- NYK:QP-16371 PUMP® software update program
- Bootloader firmware
- Application firmware

**NYK:V3452/R2**
- List Price: $ 3,035.00
End of Train Devices is available with or without EOT Phone Home service.

When used in conjunction with the **SIEMENS** Head of Train Device (HOT) it provides information to the locomotive engineer about the operational conditions / statuses of the train.

Some of the statuses include:
- Brake pipe pressure (psi)
- Arming Status (Emergency feature enabled or disabled)
- Communication Status (Good / Comm-Loss, rear-to-front or front-to-rear)
- Motion Detection (Moving or stopped)
- High Visibility Marker (HVM) Status (On, off or defective)
- Brake value (Normal, emergency or defective)
- Battery State Status (Good, low or dead)
- Battery Charge Status (% depleted, in charge units)

<table>
<thead>
<tr>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Head of Train Device</strong> console model shown for reference purposes only! Actual unit selected may vary in mounting and features.</td>
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</table>

<table>
<thead>
<tr>
<th>Features</th>
</tr>
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</table>
| - Single, Push-Button Operation  
- Single-LED Visibility Marker  
- Cellular Data Service with Over-the-Air Upgrades  
- 8 Watt Narrow-Band Radio with Waiver on Annual Calibration  
- Internal Event Recorder and GPS Receiver  
- Enclosed Antenna and AEI Tag |
### NYK:QK-3920-01
- **EOT with EOT Phone Home Included (Red Standard Model)**
  - Weight is approx. 26.5 lbs. (12.02 kgs.)
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
  - 4.50” (11.43 cm) Wide x 8.40” (21.34 cm) Deep x 27.00” (68.58 cm) Tall
  - Operating voltage 12.5 V to 13.0 V
  - Power supply 12 V, 3.4 Ah
  - Charge port 10 pin MS3102E-18-1S connector
  - Includes EOT Phone Home service
  - Includes cell modem

| List Price | $5,045.00 |

### NYK:QK-3920-02
- **EOT with EOT Phone Home Included (Orange Standard Model)**
  - Weight is approx. 26.5 lbs. (12.02 kgs.)
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
  - 4.50” (11.43 cm) Wide x 8.40” (21.34 cm) Deep x 27.00” (68.58 cm) Tall
  - Operating voltage 12.5 V to 13.0 V
  - Power supply 12 V, 3.4 Ah
  - Charge port 10 pin MS3102E-18-1S connector
  - Includes EOT Phone Home service
  - Includes cell modem

| List Price | $5,045.00 |

### NYK:QK-3920-03
- **EOT with EOT Phone Home Included (Red Smart Charge Model)**
  - Weight is approx. 26.5 lbs. (12.02 kgs.)
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
  - 4.50” (11.43 cm) Wide x 8.40” (21.34 cm) Deep x 27.00” (68.58 cm) Tall
  - Operating voltage 12.5 V to 13.0 V
  - Power supply 12 V, 3.4 Ah
  - Charge port 10 pin MS3112E-10-6S connector
  - Includes EOT Phone Home service
  - Includes cell modem

| List Price | $5,045.00 |

### NYK:QK-3920-04
- **EOT with EOT Phone Home Included (Orange Smart Charge Model)**
  - Weight is approx. 26.5 lbs. (12.02 kgs.)
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
  - 4.50” (11.43 cm) Wide x 8.40” (21.34 cm) Deep x 27.00” (68.58 cm) Tall
  - Operating voltage 12.5 V to 13.0 V
  - Power supply 12 V, 3.4 Ah
  - Charge port 10 pin MS3112E-10-6S connector
  - Includes EOT Phone Home service
  - Includes cell modem

| List Price | $5,045.00 |
### Locomotive Systems Products

**EOT Series - End Of Train Devices**

#### Maintenance and Dimensions

<table>
<thead>
<tr>
<th>SIEMENS Part Number</th>
<th>End of Train Device Maintenance Parts</th>
<th>List Price</th>
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<tbody>
<tr>
<td>NYK:QP-35056</td>
<td>Dump Pilot Valve</td>
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<td>NYK:QP35057</td>
<td>APG Control Valve</td>
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<tr>
<td>NYK:59208</td>
<td>APG Assembly</td>
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<td>Clamp Nut Bar</td>
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<td>NYK:59062</td>
<td>Latch Handle</td>
<td>$ 55.35</td>
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<td>NYK:61013</td>
<td>Electronic Interface Module</td>
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<td>NYK:62174</td>
<td>Power Module</td>
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<tr>
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<td>Orange Enclosure Cover</td>
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<td>NYK:65106/RED</td>
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<tr>
<td>NYK:QP-52516</td>
<td>Mounting Bracket</td>
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<tr>
<td>NYK:QP-70312</td>
<td>Chassis Harness</td>
<td>$ 325.00</td>
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*Applicable for all End of Train (EOT) Devices*

![Diagram showing dimensions](image-url)
Overview

SIEMENS EOT Series Phone Home Service is a subscription based Telemetry Management Software as a Service (SaaS) application that is architected to support multiple manufacturers and empowers railroad operations personnel to efficiently deploy, monitor, track, maintain and manage End of Train (EOT) devices ubiquitously with the ease of a browser based interface.

Most knowledge users are familiar with Web Browsers and as such, the SIEMENS EOT Series Phone Home Service has been validated to support the latest versions of Microsoft® Internet Explorer™, Google® Chrome™, Mozilla® Firefox™ and Apple® Safari™, which reduces training costs and provides IT departments a robust environment for managing version control and security policies.

Features

With decades of combined experience in the rail industry, SIEMENS Software Solutions team designed the EOT Phone Home application from the perspective of operations personnel who are responsible for managing EOT devices.

These insights lead to a set of truly revolutionary features that supports effective operations including:

- Color coded Key Performance Indicators (KPIs) for EOT status
- Clustering to efficiently manage map real-estate
- Paste link feature for proficient collaboration
- Multiple map base layers for visualizing mapping features
- Hyperlinked status bar for current quick scroll view of common EOT statuses
- Search options dialog box for effortless queries
- Saved searches feature for rapid retrieval of common queries
- Run History Report function with multiple file formats

EOT Series Phone Home Service screenshot
shown for reference purposes only!
Actual software may vary in mounting and features.
Overview

Model NYK:Q3442 HOT / EOT Series Repeater Module shown for reference purposes only!
Actual software may vary in mounting and features.

**SIEMENS** HOT / EOT Series Repeaters are designed to assist communications between **SIEMENS** Head of Train (HOT) and **SIEMENS** End of Train (EOT) transceivers where the transmission / reception of these devices may be impeded by other transceivers.

Supports AAR standard transmission protocol on frequency pairs 457.9375 MHz and 452.9375 MHz and are designed to operate without any user input needed. Once initialized, LED indicators on the front of the unit provide indications of operating status.
List Price

<table>
<thead>
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<th>Product Code</th>
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<tr>
<td>NYK:Q3442</td>
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**Integrated Unit**
- Weight is approx. 7 lbs. (3.18 kgs.) including mounting plate
- Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 2.7“ (6.86 cm) Wide x 13.34“ (33.88 cm) Deep x 9.2“ (23.69 cm) Tall
- Includes 457.9375 MHz and 452.9375 MHz VHF Ritron® radios
- (1) NYK:52316 mounting plate
- (1) NYK:70126/RR antenna cable
- (1) NYK:70145/8 antenna cable

**Integrated Unit for General Electric® IFC, EMD/Rockwell® ICE™ or FIRE™ systems.**
- Weight is approx. 7 lbs. (3.18 kgs.) including mounting plate
- Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 2.7“ (6.86 cm) Wide x 13.34“ (33.88 cm) Deep x 9.2“ (23.69 cm) Tall
- Includes 457.9375 MHz and 452.9375 MHz UHF Ritron® radios
- (1) NYK:52316 Mounting plate
- (2) NYK:06966 antenna cables

**Applicable for all HOT / EOT Repeater modules**
Testing Units

Overview

Model NYK:Q1400 Testing Unit shown for reference purposes only! Actual software may vary in mounting and features.

**SIEMENS** Locomotive Testing Units provide an array of diagnostic, testing and recording capabilities. This allows maintainers to perform necessary mandated testing and servicing of equipment in actual environments. Units are encased in durable Pelican® brand case for years of rugged performance.

Other testing units may be available that are not listed. Please contact the Siemens Technical Assistance for Rail Automation Team for further details.
<table>
<thead>
<tr>
<th>Testing Units</th>
<th>Assemblies</th>
<th>Locomotive Systems Products</th>
</tr>
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<tbody>
<tr>
<td><strong>NYK:Q1230</strong></td>
<td><strong>NYK:Q1400</strong></td>
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<td></td>
</tr>
<tr>
<td>$1,692.00</td>
<td>$1,991.00</td>
<td></td>
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</table>

**Basic Recorder / Tester Unit**
- Weight is approx. 10 lbs. (4.53 kgs.) including mounting plate
- Operates in -40º F to +160º F (40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.1” (32.27 cm) Deep x 6.90” (17.53 cm) Tall
- Simple 1 button testing
- Tests recording devices in actual operating environments
- Encased in durable Pelican® brand case

**Speed Test Unit**
- Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot
- Operates in -40º F to +160º F (40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 16.0” (40.64 cm) Wide x 13.1” (32.27 cm) Deep x 6.90” (17.53 cm) Tall
- Simulates speeds from 0 mph (0 kph) to 100 mph (160 kph)
- Simulates frequencies from 15 Hz to 4000 Hz
- Axle drive outputs can be set to 20p, 60p, 120p, 247p or 249p
- Wheel size diameter can be set from Ø 37.0” (93.98 cm) to 50” (127.00 cm)
- Encased in durable Pelican® brand case

<table>
<thead>
<tr>
<th><strong>NYK:Q3431/NB</strong></th>
<th><strong>NYK:Q3433/NB</strong></th>
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<td><strong>List Price</strong></td>
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<tr>
<td>$5,078.00</td>
<td>$5,873.00</td>
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**EOT / HOT Testing Unit**
- Weight is approx. 11 lbs. (3.18 kgs.) including mounting plate
- Operates in -40º F to +160º F (40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 16.0” (40.64 cm) Wide x 13.1” (32.27 cm) Deep x 6.90” (17.53 cm) Tall
- Tests HOT and EOT devices in actual operating environments
- Meets or exceeds annual Federal Railroad Administration calibration requirements without removing HOT devices from locomotives
- Provides a Pass / Fail indication for radio frequencies, deviations and signal strengths
- 120 VAC or 12 VDC operation
- Encased in durable Pelican® brand case

**EOT / HOT Testing Unit**
- Weight is approx. 11 lbs. (3.18 kgs.) including mounting plate
- Operates in -40º F to +160º F (40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 16.0” (40.64 cm) Wide x 13.1” (32.27 cm) Deep x 6.90” (17.53 cm) Tall
- Tests HOT and EOT devices in actual operating environments
- Meets or exceeds annual Federal Railroad Administration calibration requirements without removing HOT devices from locomotives
- Provides a Pass / Fail indication for radio frequencies, deviations and signal strengths
- 120 VAC or 12 VDC operation
- Encased in durable Pelican® brand case
<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
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</table>
| NYK:D3005H15-A01 | **ATC Tester Unit**  
  - Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot  
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity  
  - 16.0” (40.64 cm) Wide x 13.1” (32.27 cm) Deep x 6.90” (17.53 cm) Tall |
| NYK:D3883H32-A01 | **ACSES transponder simulator control portable tester**  
  - Weight is approx. 10 lbs. (4.53 kgs.) including mounting plate  
  - Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity  
  - 16.0” (40.64 cm) Wide x 13.1” (32.27 cm) Deep x 6.90” (17.53 cm) Tall |
Overview

**SIEMENS** Axle Drives feature solid cast aluminum housing and dual internal bearings for longevity. They can be supplied with either 20 or 60 electrical pulses per wheel revolution.

The dual bearing configuration virtually eliminates any failures due to excessive stresses from the unsprung axle as the locomotive traverses either rough road crossings or bad joints. These situations can cause premature fatigue on single bearing model axle drives and therefore failures with a critical component of the event recording or speed indicating system.

A direct replacement for most 20 or 60 pole axle drives in use today, and can be supplied with any length paddle assembly needed by the using railroad including a "peg" drive for some axle applications.

Optional Universal Axle Drive Paddle is constructed with a high tech thermal molded plastic and is a one size fits all solution. Supplied in standard 10" (25.4 cm) length and pre-marked and pre-drilled for easy field modification to field sizes of either 7.5" (19.05 cm) or 3.5" (8.89 cm) long.

*Model Q1165 Axle Drive shown for reference purposes only! Actual software may vary in mounting and features.*
<table>
<thead>
<tr>
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<th>NYK:Q1124</th>
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<td>$940.00</td>
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**20 Pulses Per Minute**
- Weight is approx. 9 lbs. (4.08 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 8.13" (20.32 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- Dual bearing configuration
- NO paddle axle drive shaft assembly
- NO PEG drive shaft assembly
- NO cables

**20 Pulses Per Minute w/ Paddle Axle Drive Assembly**
- Weight is approx. 9.8 lbs. (4.45 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 17.50" (44.45 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1123 Axle Drive (20 Pulses Per Minute) assembly
- NO PEG drive shaft assembly
- NO cables

<table>
<thead>
<tr>
<th>NYK:Q1126</th>
<th>NYK:Q1127</th>
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</table>

**20 Pulses Per Minute w/ PEG Axle Drive Assembly**
- Weight is approx. 9.4 lbs. (4.26 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 8.38" (21.29 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1123 Axle Drive (20 Pulses Per Minute) assembly
- NO paddle axle drive assembly
- (1) NYK:52272 Peg Drive Assembly
- NO cables

**20 Pulses Per Minute w/ PEG Axle Drive Assembly and Cables**
- Weight is approx. 11 lbs. (4.99 kgs.) including cables
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.11" (32.27 cm) Deep x 6.90" (17.53 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1123 Axle Drive (20 Pulses Per Minute) assembly
- NO paddle axle drive shaft assembly
- (1) NYK:52272 Peg Drive Assembly
- (1) NYK:09255 16.5' (5 m) cable
### Axle Drives - 60 Pulses Per Minute Assemblies

<table>
<thead>
<tr>
<th>NYK:Q1163</th>
<th>NYK:Q1164</th>
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**60 Pulses Per Minute**
- Weight is approx. 9 lbs. (4.08 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 8.13" (20.32 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- Dual bearing configuration
- NO paddle axle drive shaft assembly
- NO PEG drive shaft assembly
- NO cables

**60 Pulses Per Minute w/ Paddle Axle Drive Shaft Assembly**
- Weight is approx. 9.8 lbs. (4.45 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 17.50" (44.45 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1163 Axle Drive (60 Pulses Per Minute) assembly
- (1) NYK:QP-52170 Paddle Axle Drive Shaft Assembly
- NO PEG drive shaft assembly
- NO cables
<table>
<thead>
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**Axle Drive Shaft Assembly for 20 Pulses Per Minute**
- Weight is approx. 2 lbs. (0.91 kgs.)
- Operates in \(-40^\circ F\) to \(+160^\circ F\) (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

**Axle Drive Shaft Assembly for 60 Pulses Per Minute**
- Weight is approx. 2 lbs. (0.91 kgs.)
- Operates in \(-40^\circ F\) to \(+160^\circ F\) (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

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<td>$158.00</td>
<td>$35.09</td>
</tr>
</tbody>
</table>

**Paddle Axle Drive Shaft Assembly for 20 Pulses Per Minute**
- Weight is approx. 2 lbs. (0.91 kgs.)
- Operates in \(-40^\circ F\) to \(+160^\circ F\) (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Pre-marked and pre-drills to field modify for either a 7.5" (19.05 cm) or 3.5" (8.89 cm) long

**PEG Drive Shaft Assembly for 20 Pulses Per Minute**
- Weight is approx. 1 lbs. (0.45 kgs.)
- Operates in \(-40^\circ F\) to \(+160^\circ F\) (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
Overview

Axle Generator shown for reference purposes only! Actual unit selected may vary in mounting and features.

**SIEMENS** Axle Generator uses internal speed sensors to count pulses related to specific gear rotations. Speed data is relayed to the onboard computer for determination of potential overspeed conditions. It contains (3) magnetic reluctance type speed sensors. The first two sensors are driven from a 60 tooth gear and the remaining sensor is driven from a 40 tooth gear.

Other configurations may be available that are not listed. Please contact the **SIEMENS** Technical Assistance for Rail Automation Team for further details.

**NYK:D600001-A01**

- Meets or exceeds applicable AREMA® specifications on recommended practices regarding 3000 VAC breakdown voltage.
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted when removing included mounting bracket
- Weight is approx. 15 lbs. (6.80 kgs.) including connectors
- Operates in -40º F to +160º F (-40ºC to +70ºC) @ up to 95% Non-Condensing Relative Humidity
- 6.3 VAC 3.5 Amp power supply
- (1) 15 Amp battery fuse
- (1) 1.5 Amp line fuse
- (4) Output battery connections
- 115 VAC Input connection
- 12 VDC Input connection

Optional Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYK:D1365H01-A12</td>
<td>Junction box</td>
<td>$762.00</td>
</tr>
<tr>
<td>NYK:B600010-A01</td>
<td>Spline assembly</td>
<td>$534.00</td>
</tr>
</tbody>
</table>
Overview

Code Rate Generator / Decoder shown for reference purposes only! Actual unit selected may vary in mounting and features.

**Overview**

- Solid state design that replaces older relays
- Vital design ensures that transmitted code is never greater than the one selected
- Stainless steel enclosure, hardware and mounting plate
- Utilizes industry standard AAR terminals

**SIEMENS** Code Rate Generator is a microprocessor based unit used to drive code following relays. The unit generates various code rates depending on model.

An integrated LED flashes at the generated code rate. The attached mounting plate can be supplied with different dimensions to match various relay mounting patterns.
**Code Rate Generator**
- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 8 VDC - 15 VDC voltage range
- Current sinking outputs
- 250 mA nominal input current (neglecting load current)
- Open drain FET output load
- Outputs rated at 0.75A @ 12 V
- Generates code rates 50, 75, 120, 180, 270 and 420

**Code Rate Decoder**
- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 8 VDC - 15 VDC voltage range
- 250 mA nominal input current (neglecting load current)
- 12 V nominal relay coil with > 500 Ω output load
- Outputs rated at 0.75A @ 12 V
- Generates code rates 75, 120, and 180

**Applicable for all Code Rate Generators and Decoders**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Code Rate Generator</th>
<th>Code Rate Decoder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>10.25&quot; (26.04 cm)</td>
<td></td>
</tr>
<tr>
<td>Center to Center</td>
<td>2.5&quot; (6.35 cm)</td>
<td></td>
</tr>
<tr>
<td>Center to Center</td>
<td>4.88&quot; (12.40 cm)</td>
<td></td>
</tr>
<tr>
<td>Center to Center</td>
<td>0.5&quot; (1.27 cm)</td>
<td></td>
</tr>
<tr>
<td>Center to Center</td>
<td>2.5&quot; (6.35 cm)</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>8.50&quot; (21.59 cm)</td>
<td></td>
</tr>
</tbody>
</table>
Overview

Model NYK-Q1860 Odometer shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Odometer is a self-contained module for permanently recording vehicle mileage. Vehicle mileage, in 1 mile increments to 9,999,999 miles on Q1860 model (1 kilometer increments to 9,999,999 kilometers on Q1860/M model) is continuously displayed on the integrated and back-lit Liquid Crystal Display (LCD).

Accumulated mileage is stored in 10 mile (10 kilometer) increments in non-volatile memory for permanent recording. Installation consists of physically mounting the electronics enclosure and completing the wiring to power and the axle alternator of the vehicle. The serial communication interface, a standard DB-9 computer connector, allows various operating parameters to be changed including the axle alternator poles per revolution, wheel diameter and initial mileage setting.
**NYK:Q1860**

- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Measures in MPH

**NYK:Q1860/M**

- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Measures in KPH

---

**Applicable for all Odometers**

- Overall: 7.4" (12.40 cm)
- Center to Center: 3.0" (7.62 cm)
- Overall: 0.5" (1.27 cm)
- Overall: 4.13" (10.49 cm)
Overview

Model NYK:Q1830 Speed Indicator shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Speed Indicators are a solid state speed indication unit, which is able to display vital train operating information for the locomotive engineer such as speed readout. Time of day indicator is also available on some models.

Designed for simple retrofitting, units are available in single and dual display configurations with integrated odometer and accelerator functions.

Encased in a rugged aluminum shell and utilizing minimum cab space the speed indicator is able to provide an output to the locomotive magnet valve when the vehicle matches or goes over the overspeed setting of the unit.

Features

- Adjustable overspeed function
- 74 VDC Power
- 30 second overspeed recovery delay
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Speed Preset</th>
<th>Speed Readout</th>
<th>Adjustable Wheel Size</th>
<th>Alerter Activation Output</th>
<th>Overspeed Range</th>
<th>Recovery Delay</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYK:Q1810</td>
<td>None</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>None</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$1,993.00</td>
</tr>
<tr>
<td>NYK:Q1810-74</td>
<td>74 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>None</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$1,993.00</td>
</tr>
<tr>
<td>NYK:Q1810/M-120</td>
<td>120 kph</td>
<td>English / Metric</td>
<td>36 mm-42 mm</td>
<td>None</td>
<td>5 mph - 99 mph 8 kph - 159 kph</td>
<td>30 sec</td>
<td>$2,192.00</td>
</tr>
<tr>
<td>NYK:Q1812</td>
<td>None</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,490.00</td>
</tr>
<tr>
<td>NYK:Q1812-69</td>
<td>69 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,490.00</td>
</tr>
<tr>
<td>NYK:Q1818-74</td>
<td>74 mph</td>
<td>English Only</td>
<td>30 mm-38 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,087.00</td>
</tr>
<tr>
<td>NYK:Q1818-80</td>
<td>80 mph</td>
<td>English Only</td>
<td>30 mm-38 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,269.00</td>
</tr>
<tr>
<td>NYK:Q1820</td>
<td>None</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,048.00</td>
</tr>
<tr>
<td>NYK:Q1820-45</td>
<td>45 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,048.00</td>
</tr>
<tr>
<td>NYK:Q1820-71</td>
<td>71 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,048.00</td>
</tr>
<tr>
<td>NYK:Q1820-74</td>
<td>74 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,048.00</td>
</tr>
<tr>
<td>NYK:Q1820-80</td>
<td>80 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>30 sec</td>
<td>$2,048.00</td>
</tr>
<tr>
<td>NYK:Q1821</td>
<td>None</td>
<td>Metric Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>8 kph - 160 kph</td>
<td>30 sec</td>
<td>$2,074.00</td>
</tr>
<tr>
<td>NYK:Q1830</td>
<td>None</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>1 sec</td>
<td>$2,074.00</td>
</tr>
<tr>
<td>NYK:Q1830-10</td>
<td>10 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>1 sec</td>
<td>$2,074.00</td>
</tr>
<tr>
<td>NYK:Q1830-69</td>
<td>69 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>1 sec</td>
<td>$2,087.00</td>
</tr>
<tr>
<td>NYK:Q1830-74</td>
<td>74 mph</td>
<td>English Only</td>
<td>36 mm-42 mm</td>
<td>Vigilance</td>
<td>5 mph - 99 mph</td>
<td>1 sec</td>
<td>$1,988.00</td>
</tr>
</tbody>
</table>
## Speed Indicator Power Cable (20) Pole

<table>
<thead>
<tr>
<th>SIEMENS Part Number</th>
<th>Description</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYK:Q9011/10B</td>
<td>10' (3 m) long, 90° &quot;B&quot; Break</td>
<td>$278.00</td>
</tr>
<tr>
<td>NYK:Q9011/10C</td>
<td>10' (3 m) long, 90° &quot;C&quot; Break</td>
<td>$253.00</td>
</tr>
<tr>
<td>NYK:Q9011/15B</td>
<td>15' (4.5 m) long, 90° &quot;B&quot; Break</td>
<td>$288.00</td>
</tr>
<tr>
<td>NYK:Q9011/15C</td>
<td>15' (4.5 m) long, 90° &quot;C&quot; Break</td>
<td>$263.00</td>
</tr>
<tr>
<td>NYK:Q9011/20B</td>
<td>20' (6 m) long, 90° &quot;B&quot; Break</td>
<td>$298.00</td>
</tr>
<tr>
<td>NYK:Q9011/20C</td>
<td>20' (6 m) long, 90° &quot;C&quot; Break</td>
<td>$273.00</td>
</tr>
</tbody>
</table>

## Speed Indicator Power Cable (60) Pole

<table>
<thead>
<tr>
<th>SIEMENS Part Number</th>
<th>Description</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYK:Q9012/10B</td>
<td>10' (3 m) long, 90° &quot;B&quot; Break</td>
<td>$291.00</td>
</tr>
<tr>
<td>NYK:Q9012/10C</td>
<td>10' (3 m) long, 90° &quot;C&quot; Break</td>
<td>$266.00</td>
</tr>
<tr>
<td>NYK:Q9012/15B</td>
<td>15' (4.5 m) long, 90° &quot;B&quot; Break</td>
<td>$301.00</td>
</tr>
<tr>
<td>NYK:Q9012/15C</td>
<td>15' (4.5 m) long, 90° &quot;C&quot; Break</td>
<td>$276.00</td>
</tr>
<tr>
<td>NYK:Q9012/20B</td>
<td>20' (6 m) long, 90° &quot;B&quot; Break</td>
<td>$311.00</td>
</tr>
<tr>
<td>NYK:Q9012/20C</td>
<td>20' (6 m) long, 90° &quot;C&quot; Break</td>
<td>$276.00</td>
</tr>
</tbody>
</table>

## Speed Indicator / Alerter Interface Cables

<table>
<thead>
<tr>
<th>SIEMENS Part Number</th>
<th>Description</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYK:Q9038/15C</td>
<td>15' (4.5 m) long, 90° &quot;C&quot; Break</td>
<td>$106.00</td>
</tr>
<tr>
<td>NYK:Q9038/25C</td>
<td>25' (7.5 m) long, 90° &quot;C&quot; Break</td>
<td>$126.00</td>
</tr>
<tr>
<td>NYK:Q9038/30C</td>
<td>30' (9 m) long, 90° &quot;C&quot; Break</td>
<td>$146.00</td>
</tr>
</tbody>
</table>
Applicable for all Speed Indicators

- Overall Dimensions: 7.3" (18.55 cm)
- Enclosure Dimensions: 6.50" (16.51 cm)
- Center to Center Dimensions: 5.80" (14.73 cm)
- 3.0" (7.62 cm) Center to Center
### Overview

**Model NYK-Q1250 Universal Interface Panel**  
*shown for reference purposes only!*  
*Actual unit selected may vary in mounting and features.*

**SIEMENS** Universal Interface Panels are a self contained, microprocessor driven device which translates input signals from traction motor speed sensors to industry standard (and user selectable) wheel rotation frequencies.

Designed to replace existing locomotive mechanical axle drive assemblies with solid state sensors and by physically locating the sensors inside the locomotive; increased mechanical reliability is obtained.

Each of two (2) input, processing and output stages electrically independent; hence, the existing locomotive scheme for providing redundant speed input signals is maintained.

Provides outputs to other locomotive borne devices which control the authority for movement along the right-of-way, the output accuracy of the QUIP is within 1% of the input signal over the entire 10 HZ to 10KHz range on all output channels.

Failure modes for the Universal Interface Panel have been investigated through the use of Failure Mode Effects Analysis (FMEA) techniques for hardware, software and the interaction between these components. Any failure from any source will be detected and provide relay output of the fault condition to any externally connected device.

### Features

- Adjustable overspeed function
- 74 VDC Power
- 30 second overspeed recovery delay
- (1) 20 pole output
- (1) 60 pole output
- (1) 1:500 pole output
<table>
<thead>
<tr>
<th>SIEMENS Part Number</th>
<th>Preset</th>
<th>Self Test Switch Option</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYK:Q1250</td>
<td>None</td>
<td>NO</td>
<td>$1,382.00</td>
</tr>
<tr>
<td>NYK:Q1251</td>
<td>128 PPWR</td>
<td>YES</td>
<td>$1,949.00</td>
</tr>
<tr>
<td>NYK:Q1253</td>
<td>249 PPWR</td>
<td>NO</td>
<td>$1,110.00</td>
</tr>
<tr>
<td>NYK:Q1254</td>
<td>128 PPWR</td>
<td>NO</td>
<td>$1,765.00</td>
</tr>
<tr>
<td>NYK:Q1260</td>
<td>249 PPWR</td>
<td>NO</td>
<td>$1,176.00</td>
</tr>
</tbody>
</table>
### Overview

Model NYK:Q2014 Ditch Light shown for reference purposes only!
Actual unit selected may vary in mounting and features.

**SIEMENS** Ditch Lights are a complete lighting system to retrofit existing on-board locomotive lights which provides additional visibility during night time operation as well as additional protection at grade crossings. Available in either a 32Vdc or 5Vdc versions and powered by an external lighting controller.

Whenever the headlight of the lead locomotive is placed in the high beam position, the ditch lights are constantly illuminated. Whenever speeds are greater than 8 mph (13 kph), whenever the locomotive horn is blown, or when the manual mushroom switch pendant is pressed, the Ditch Lights enter into an alternating wig / wag flashing pattern at 1 second intervals.

Additionally, the lights will continue to flash for approximately 30 seconds before they are extinguished.

Available ditch light brackets can be used for precise aiming of the ditch lights according to railroad specifications.

### Features

- Available in either a 32Vdc or 5Vdc versions
- Steel enclosure for rugged durability
- Provides additional visibility during night time operations

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Available in either a 32Vdc or 5Vdc versions</td>
</tr>
<tr>
<td>• Steel enclosure for rugged durability</td>
</tr>
<tr>
<td>• Provides additional visibility during night time operations</td>
</tr>
</tbody>
</table>
### NYK:Q2014/30V
- **List Price:** $327.00
- **Type 1 - 30 V**
  - Weight is approx. 7 lbs. (3.18 kgs.)
  - Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
  - Type 1 assembly
  - Requires 30 V Bulb

### NYK:Q2014/75V
- **List Price:** $327.00
- **Type 1 - 75 V**
  - Weight is approx. 7 lbs. (3.18 kgs.)
  - Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
  - Type 1 assembly
  - Requires 75 V Bulb

### Applicable for all NYK:Q2014 Type 1 Ditch Lights
- 10.00" (25.4 cm) Enclosure
- 11.00" (27.94 cm) Overall
## Ditch Lights - Type 2

### Assemblies and Dimensions

<table>
<thead>
<tr>
<th>NYK:Q2015/30V</th>
<th>NYK:Q2015/75V</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Ditch Light Type 2 - 30 V" /></td>
<td><img src="image2" alt="Ditch Light Type 2 - 75 V" /></td>
</tr>
<tr>
<td><strong>List Price</strong></td>
<td><strong>List Price</strong></td>
</tr>
<tr>
<td>$480.00</td>
<td>$480.00</td>
</tr>
</tbody>
</table>

### Type 2 - 30 V
- Weight is approx. 7 lbs. (3.18 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 1 assembly
- Requires 30 V Bulb

### Type 2 - 75 V
- Weight is approx. 7 lbs. (3.18 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 1 assembly
- Requires 75 V Bulb

### Applicable for all NYK:Q2015 Type 2 Ditch Lights

- **Enclosure**
  - Type 2 - 30 V: 10.00" (25.4 cm)
  - Type 2 - 75 V: 3.37" (8.56 cm)
- **Overall**
  - Type 2 - 30 V: 11.42" (29.00 cm)
  - Type 2 - 75 V: 4.75" (12.07 cm)
Ditch Light Controller
- Weight is approx. 8.2 lbs. (3.72 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Controls up to (4) @ up to 75 V bulbs
- 10 second wig / wag timing
- 8 mph trigger for lights

Ditch Light Controller
- Weight is approx. 8.6 lbs. (3.90 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Controls up to (4) @ up to 75 V bulbs
- 10 second wig / wag timing
- 5 mph trigger for lights

Applicable for all Ditch Light Controllers

Assemblies and Dimensions
Overview

Model NYK:D3676H01 Heater Ground Relay shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Heater Ground Relays provide dual channel fault current monitoring protection for heater systems. Able to be reset automatically with programmable trip threshold settings. Contains both internal and external trip indicators. Available in either a 600 VDC or 750 VDC version.
<table>
<thead>
<tr>
<th>NYK:D1582H01</th>
<th>NYK:D3676H01</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>List Price</strong></td>
<td><strong>List Price</strong></td>
</tr>
<tr>
<td>$1,892.00</td>
<td>$2,187.00</td>
</tr>
</tbody>
</table>

600 VDC
- Weight is approx. 6.4 lbs. (2.90 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

750 VDC
- Weight is approx. 7.6 lbs. (3.45 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
Applicable for all NYK:D1582H01 Heater Ground Relays

- 6.01” (15.27 cm) Enclosure
- 6.44” (16.36 cm) Center to Center
- 0.54” (1.37 cm)
- 1.13” (2.87 cm) Center to Center
- 4.11” (10.44 cm) Overall
- 5.02” (12.75 cm)

Applicable for all NYK:D3676H01 Heater Ground Relays

- 3.00” (7.62 cm) Enclosure
- 4.00” (10.16 cm) Center to Center
- 0.25” (0.64 cm)
- 3.63” (9.22 cm) Center to Center
- 4.25” (10.80 cm) Overall
- 5.97” (15.16 cm) Overall
**Overview**

Model NYK:C655H01-A02 Maintenance Key Switch shown for reference purposes only! Actual unit selected may vary in mounting and features.

**SIEMENS** Maintenance Key Switch provides exceptional maintenance security and safety in a single compact lightweight aluminum design. Locking cylinder is surrounded by a strong electro-less nickle plated steel body for added security.

The locking cylinders are designed to be “self-cleaning”, sweeping out dirt and grit when operated by controlled keys that are only available to the railroad.

Key retaining design traps the key in the padlock so that it cannot be removed when in the ON position.

<table>
<thead>
<tr>
<th>NYK:C655H01-A02</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.00”</strong></td>
</tr>
<tr>
<td><strong>(10.16 cm)</strong></td>
</tr>
<tr>
<td><strong>Center to</strong></td>
</tr>
<tr>
<td><strong>Center</strong></td>
</tr>
<tr>
<td><strong>7”</strong></td>
</tr>
<tr>
<td><strong>(17.78 cm)</strong></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
</tr>
<tr>
<td><strong>5.00”</strong></td>
</tr>
<tr>
<td><strong>(12.70 cm)</strong></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
</tr>
<tr>
<td><strong>4.00”</strong></td>
</tr>
<tr>
<td><strong>(10.16 cm)</strong></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
</tr>
</tbody>
</table>

- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (2) NO and (2) NC contacts, 15A
- 15A
- 125 VAC
- Connection by AAR terminals

**List Price**

$948.00
Overview

Model NYK:D1563H18-A01 GPS Onboard Monitoring Unit shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS GPS Onboard Monitoring Unit works by continually comparing satellite-derived coordinates to coordinates in the cab system’s onboard database. Database mapping and interface services are also available.

NYK:D1563H18-A01

- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

List Price

$2,045.00
Model NYK:D1365H01-A01 Track Receiver Junction Box shown for reference purposes only!
Actual unit selected may vary in mounting and features.

**SIEMENS** Track Receiver Junction Boxes are used to wire a pair of track receivers in a series-aiding configuration, providing a single-cable run to the equipment enclosure.

- Weight is approx. 22.0 lbs. (9.98 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

**NYK:D1365H01-A01**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>23.27 cm</td>
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<tr>
<td>Center to Center</td>
<td>12.07 cm</td>
</tr>
<tr>
<td>Overall</td>
<td>23.27 cm</td>
</tr>
<tr>
<td>Center to Center</td>
<td>21.92 cm</td>
</tr>
</tbody>
</table>

**List Price**

| Price   | $823.00 |
SIEMENS Aspect Display Unit (ADU) provides a primary visual interface between a train's vehicle operator and the cab signaling systems. The ADU's rugged design is suitable for use onboard any type of vehicle. The ADU's microprocessor combines indications from industry standard positive train control protection systems such as Automatic Train Control (ATC) and Advanced Civil Speed Enforcement System (ACSES) in order to present their required respective data concisely thru the ADU onboard display.

The ADU connects serially to either ATC system directly or third-party ATC systems thru a separate ATC Interface Unit (AIU).
Model NYK:D1517H01-A01 Locomotive Power Supply shown for reference purposes only!
Actual unit selected may vary in mounting and features.
<table>
<thead>
<tr>
<th>Model</th>
<th>List Price</th>
<th>Description</th>
</tr>
</thead>
</table>
| NYK:D1517H01-A01 | $2,150.00  | **ACSES Radio Power Supply**  
  - Weight is approx. 2.8 lbs. (1.27 kgs.)  
  - Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity  
  - 13.6 VDC output set point |
| NYK:D1560H01-A01 | $1,804.00  | 32 VDC  
  - Weight is approx. 4.3 lbs. (1.95 kgs.)  
  - Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity |
| NYK:D1567H08-A01 | $2,926.00  | 36 VDC  
  - Weight is approx. 4.3 lbs. (1.95 kgs.)  
  - Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity |
| NYK:D5600H01-A02 | $1,876.00  | 12 VDC (CTV)  
  - Weight is approx. 4.3 lbs. (1.95 kgs.)  
  - Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity |
Applicable for all NYK:D5600H01 Locomotive Power Supplies

Dimensions

6.5” (16.51 cm) Overall
4.31” (10.95 cm) Overall
8.25” (20.96 cm) Overall

Applicable for all NYK:D1517H01 Locomotive Power Supplies

7.25” (18.42 cm) Overall
2.88” (7.32 cm) Overall
9.75” (24.77 cm) Overall
Overview

SIEMENS Decelerometer are a solid state design, vital, microprocessor-controlled device used to determine a vehicle’s deceleration rate.

Designed using fail-safe principles to ensure that deceleration rate cannot be erroneously obtained. These include both Class I hardware/software and Class II hardware principles.

Depending on model Interfacing can be accomplished using any of the following (3) methods:

- **Serial Peripheral Interface (SPI)**
  Industry standard serial interface requiring implementation of software communications protocol.

- **Asynchronous Serial Interface (ASI)**
  Industry standard RS-485 protocol.

- **32 Volt DC Isolated Output**
  Isolated 32 VDC appears across the device’s two brake rate output pins when the deceleration rate is achieved.

Model NYK:D1563H18-A01 Decelerometer shown for reference purposes only! Actual unit selected may vary in mounting and features.
List Price $ 5,819.00

NYK:D177H01-A01

- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 1.80 MPH/s (2.90 KPH/s) (1.12 m/s²) maximum detectable deceleration rate
- Accurate to 0.05 MPH/s (0.08 KPH/s)

List Price $ 5,013.00

NYK:D177H01-A02

- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 3.6 MPH/s (5.79 KPH/s) (3.36 m/s²) maximum detectable deceleration rate
- Accurate to 0.10 MPH/s (0.16 KPH/s)

Applicable for all NYK:D177H01 Decelerometers

- Overall: 11.58" (29.41 cm)
- Center to Center: 10.78" (27.38 cm)
- Overall: 8.27" (21.01 cm)
- Center to Center: 6.02" (15.29 cm)
- Overall: 4.3" (10.92 cm)
### Overview

![Model NYK:Q1603 CHMM Series Crash Hardened Memory Module](image1.png)

**Model NYK:Q1603 CHMM Series Crash Hardened Memory Module**
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

**SIEMENS** Crash Hardened Memory Module (CHMM Series)
is an external memory back-up device designed to interface
with an existing on-board event recorder.

The purpose of the CHMM is to store data recorded by the
event recorder and to protect that data under certain
extraordinary conditions.

### Features

- Meets all FRA 49 CFR 229 Appendix D requirements for
  locomotive crashworthy event recorder memory
- Compact design maximizes mounting options on all locomotives
- (4) ethernet ports and (6) functional serial ports for external
equipment interface
- Inputs in EMP Class C or D
- USB and Ethernet download capable
- Scalable storage up to 128 GB
<table>
<thead>
<tr>
<th>NYK:Q1602</th>
<th>NYK:Q1603-02</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>List Price</strong></td>
<td><strong>List Price</strong></td>
</tr>
<tr>
<td>$4,432.00</td>
<td>$4,088.00</td>
</tr>
</tbody>
</table>

**Crash Hardened Memory Module**
- Weight is approx. 15.5 lbs. (6.97 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Operating voltage 74 VDC
- Records minimum of (48) hours of event data
- (1) RS-232 / RS-422 / RS-485 port

**Crash Hardened Memory Module w/ Handle**
- Weight is approx. 16.8 lbs. (7.57 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Operating voltage 74 VDC
- Records minimum of (48) hours of event data
- (1) RS-232 / RS-422 / RS-485 port
- Designed to work in conjunction with external event recorder

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**Applicable for all CHMM Series Crash Hardened Memory Modules**

- 4.25" (10.80 cm) Center to Center
- 9.00" (22.86 cm) Overall
- 8.36" (21.23 cm) Overall
- 7.25" (18.39 cm) Overall w/ Handle
- 5.50" (13.97 cm) Overall w/o Handle
- 4.16" (10.57 cm) Overall
Overview

Model NYK:Q1046 Locomotive Event Recorder shown for reference purposes only! Actual unit selected may vary in mounting and features.

**SIEMENS** Locomotive Event Recorders provides the Locomotive Engineer with the ability to record the overall operation of a locomotive.

A minimum of 48 hours of recorded data is stored in non-volatile flash Random Access Memory (RAM). As the memory is filled to capacity, the oldest data is overwritten with newly acquired data. No batteries are required to retain recorded data in the event recorder.

A lithium battery located inside the event recorder enclosure powers the internal real time clock. The battery is only used when locomotive battery power is not available and has a life of approximately five (5) years.

All electrical connections to the event recorder are terminated at a series of Amphenol MS (military style) connectors. Pre-assembled wiring harnesses for connecting the locomotive electrical signals to the event recorder are provided with the system.

The event recorder integrates the electronic recorder and air line connections in a NEMA 4 style water-resistant enclosure. A separate air brake system monitor and the associated interconnecting wiring are eliminated.
<table>
<thead>
<tr>
<th>NYK:Q1040E</th>
<th>NYK:Q1044E</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
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<td><strong>List Price</strong></td>
<td><strong>List Price</strong></td>
</tr>
<tr>
<td>$2,934.00</td>
<td>$3,347.00</td>
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<tr>
<td><strong>Weight</strong> is approx. 18 lbs. (8.16 kgs.)</td>
<td><strong>Weight</strong> is approx. 18 lbs. (8.16 kgs.)</td>
</tr>
<tr>
<td>Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</td>
<td>Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</td>
</tr>
<tr>
<td>Type 40 Enclosure</td>
<td>Type 40/ Enclosure</td>
</tr>
<tr>
<td>With Direct Brake</td>
<td>With Direct Brake</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NYK:Q1046E</th>
<th>NYK:Q1048E</th>
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<tbody>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
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<td><strong>List Price</strong></td>
<td><strong>List Price</strong></td>
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<tr>
<td>$2,999.00</td>
<td>$4,071.00</td>
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<tr>
<td><strong>Weight</strong> is approx. 18 lbs. (8.16 kgs.)</td>
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<td>Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</td>
<td>Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</td>
</tr>
<tr>
<td>Type 46 Enclosure</td>
<td>Type 48 Enclosure</td>
</tr>
<tr>
<td>With Direct Brake</td>
<td>With Direct Brake</td>
</tr>
</tbody>
</table>
**NYK:Q1050E**

- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 50 Enclosure
- With Direct Brake

**NYK:Q1067E**

- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 67 Enclosure
- With Pump

**NYK:Q1029**

- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40°F to +160°F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 29 Enclosure
- With camera interface
**SIEMENS** now offers a variety of new product offerings to address a multitude of client centric needs. Please contact the **SIEMENS** Technical Assistance for Rail Automation Team to discuss details about your specific design application requirements.

- Cab Signaling Systems
- Scanner Antenna
- Intermittent Train Stop Systems
- Variable Timers
- Mini, Midi and Maxi Track Receivers
- Crew Alerters