Retrofitting kit
Hard Bus Retrofit for Siemens 3WN1 and 3WN6 Air Circuit Breakers with ABB New Emax Air Circuit Breakers

With a few modifications and sustainable costs, Retrofitting kits are the perfect solution to improve low voltage switchgear.

ABB SACE has developed new hard bus retrofit kits to replace and upgrade Siemens 3WN1 and 3WN6 Air Circuit breaker with New Emax.

ABB ensures operating continuity between Siemens 3WN1 and 3WN6 air circuit breakers and the recent series of circuit breakers. Replacement kits are designed to preserve existing switchgear and reduce downtimes to a minimum. Special copper adapting kits can be mounted on New Emax terminals in order to replicate the copper bars connections of Siemens breaker.

The result is a completely upgraded System with all the advantages of new technology offered by ABB New Emax circuit breakers.

All New Emax Electrical and Mechanical accessories can be used. Mechanical interlock and ATS work only with New Emax Circuit breakers.

Retrofitting kit consists of:
1. Dedicated plates for fixed part to fix the circuit breaker in the same fixing point of Siemens’s one
2. Special New Emax adapter busbars according to the size
3. In some cases, where necessary, insulating material to align terminals according to New Emax dimensions
4. Adhesive template for panel door cutout.

Benefits with Retrofitting kits:
- Increased safety
- Service continuity
- Easy installation
- Maintenance costs reduction
- Products and spare parts availability
- Tested solution
- Wide range of mechanical and electrical accessories with New Emax
- Power measurement with advanced trip units (PR122 and PR123)
- Monitoring with PR120/K, electrical signaling internal module
- Communication:
  - Modbus (PR120/D-M),
  - Wireless, (PR120/D-BT),
  - Profibus, DeviceNet or AS-I (EP 010 – FBP)
- Diagnosis and installation with Ekip Connect Software.
### Recommendations:
The following minimum dimensions of compartment need to be verified before ordering:

#### Air Circuit Breakers

<table>
<thead>
<tr>
<th>Type</th>
<th>Version (terminals)</th>
<th>Poles vs New Emax CB</th>
<th>In</th>
<th>What to order</th>
</tr>
</thead>
<tbody>
<tr>
<td>W (F)</td>
<td>3p/4p</td>
<td>E2S 800</td>
<td>800 (RP=630)</td>
<td>MP + kit (FP included)</td>
</tr>
<tr>
<td>W (HR)</td>
<td>3p</td>
<td>E2S 800</td>
<td>800 (RP=630)</td>
<td>MP + kit (FP included)</td>
</tr>
<tr>
<td>W (VR)</td>
<td>3p/4p</td>
<td>E2S 800</td>
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#### Siemens 3WN1

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<thead>
<tr>
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<tr>
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<td>3p/4p</td>
<td>E2S 800</td>
<td>800</td>
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#### Siemens 3WN6

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#### Hard Bus Retrofill for Siemens 3WN1 and 3WN6

Here below the list of Hard bus Retrofit (RF) retrofitting kits for Siemens 3WN1 and 3WN6 ABB New Emax circuit breakers:

- **Siemens 3WN1**
  - 3WN10: 630 W (F) 3p/4p → E2S 800 800 (RP=630) MP + kit (FP included)
  - 3WN11: 800 W (HR) 3p → E2S 800 800 MP + kit (FP included)
  - 3WN12: 1000 W (F) 3p/4p → E2S 1000/1250 1000/1250 MP + kit (FP included)
  - 3WN13: 1250 W (HR) 3p → E2S 1250 1250 MP + kit (FP included)
  - 3WN14: 1600 W (HR) 3p → E2S 1600 1600 MP + kit (FP included)
  - 3WN15: 2000 W (F) 3p/4p → E3H 2000 2000 MP + kit (FP included)
  - 3WN16: 2500 W (HR) 3p → E3H 2500 2500 MP + kit (FP included)
  - 3WN17: 3200 W (F) 3p/4p → E4H 3200 3200 but derating 2900 MP + kit (FP included)
  - 3WN18: 4000 W (HR) 3p → E4H 4000 4000 but derating 3700 MP + kit (FP included)
  - 3WN19: 5000 W (F) 3p/4p → E6H 5000 5000 MP + kit (FP included)
  - 6300 W (HR) 3p → E6H 6300 6300 but derating 5200 MP + kit (FP included)

- **Siemens 3WN6**
  - 3WN60: 630 W (HR) 3p/4p → E2S 800 800 (RP=630) MP + kit (FP included)
  - 3WN61: 800 W (HR) 3p/4p → E2S 800 800 MP + kit (FP included)
  - 3WN62: 1000 W (VR) 3p/4p → E2S 1000 1000 MP + kit (FP included)
  - 3WN63: 1250 W (VR) 3p/4p → E2S 1250 1250 MP + kit (FP included)
  - 3WN64: 1600 W (VR) 3p/4p → E2S 1600 1600 MP + kit (FP included)
  - 3WN65: 2000 W (HR) 3p → E3H 2000 2000 MP + kit (FP included)
  - 3WN66: 2500 W (HR) 3p → E3H 2500 2500 MP + kit (FP included)
  - 3WN67: 3200 W (VR) 3p/4p → E3H 3200 3200 MP + kit (FP included)

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The kit includes the Fixed part and the special terminals.

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### Kit Dimensions

<table>
<thead>
<tr>
<th>Kit di retrofill</th>
<th>E2 [mm/in]</th>
<th>E3 [mm/in]</th>
<th>E4 [mm/in]</th>
<th>E5 [mm/in]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (3p)</td>
<td>400/15.8&quot;</td>
<td>500/19.7&quot;</td>
<td>700/27.6&quot;</td>
<td>1000/39.4&quot;</td>
</tr>
<tr>
<td>A (4p)</td>
<td>490/19.3&quot;</td>
<td>630/24.8&quot;</td>
<td>790/31.1&quot;</td>
<td>1130/44.5&quot;</td>
</tr>
<tr>
<td>D</td>
<td>500/19.7&quot;</td>
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Below the list of New Emax accessories available for the retrofitting kit Siemens 3WN1 and 3WN6 → New Emax:

### Electrical accessories
- YO (shunt opening release)
- YO2 (second shunt opening release)
- YC (shunt closing release)
- YU (undervoltage release)
- D (electronical Delay for YU - into the switchboard)
- M (motor for charging spings)
- AUX Spring charged (S33M)
- AUX Open/Closed auxiliary contacts
- AUX CB connected/test/insulated position
- Closing Spring charged signalling – S33
- Electric TU reset
- SOR Test Unit
- Overcurrent release trip indication
- Contact for signalling undervoltage release de-energized

### Mechanical accessories
- Key lock in open position
- Padlock in open position
- Key lock in racked in/test/out position
- Mechanical compartment door lock
- Protection for sealable trip unit
- Mechanical operation counter
- IP54 door protection
- O/C pushbutton protection
- Mechanical Interlock (only with other New Emax CB)

### Modules
- PR120/K signalling module
- PR120/V measuring module
- PR120/D-M Modbus communication module
- PR120/D-BT Bluetooth communication module
For further information contact:

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