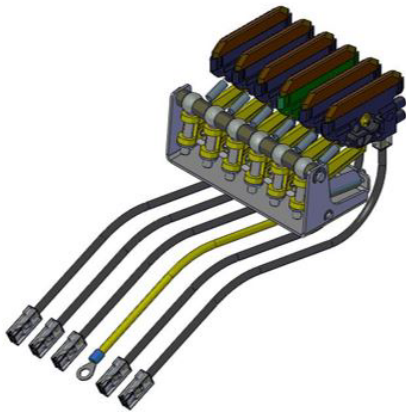


## Conductor Bar in EMS-Systems Program 0811

### Order-Number

- 08-S265-2346-002
- 08-S265-2345-002
- 08-P025-0191-001
- 08-P025-0192-001



Order-Nr.  
08-S265-2346-002  
(3182628)



Order-Nr.  
08-S265-2345-002  
(3182609)



Order-Nr.  
08-P025-0191  
(3187725)



Order-Nr.  
08-P025-0192  
(3187726)

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### NOTE!

BMW stipulates a plate with a cable guide 08-P025-0191-001. This plate must be considered for new installations and rebuilding. It allows the obeying of the correct installation dimensions and a safe cable guide.  
For EMS applications which are not used for BMW we also recommend to retrofit the plate according to the distance dimension of 75 mm.

### 1 Collector Unit

#### 1.1 Polarity Protection

BMW Best Practice solution as shown in BMW specification

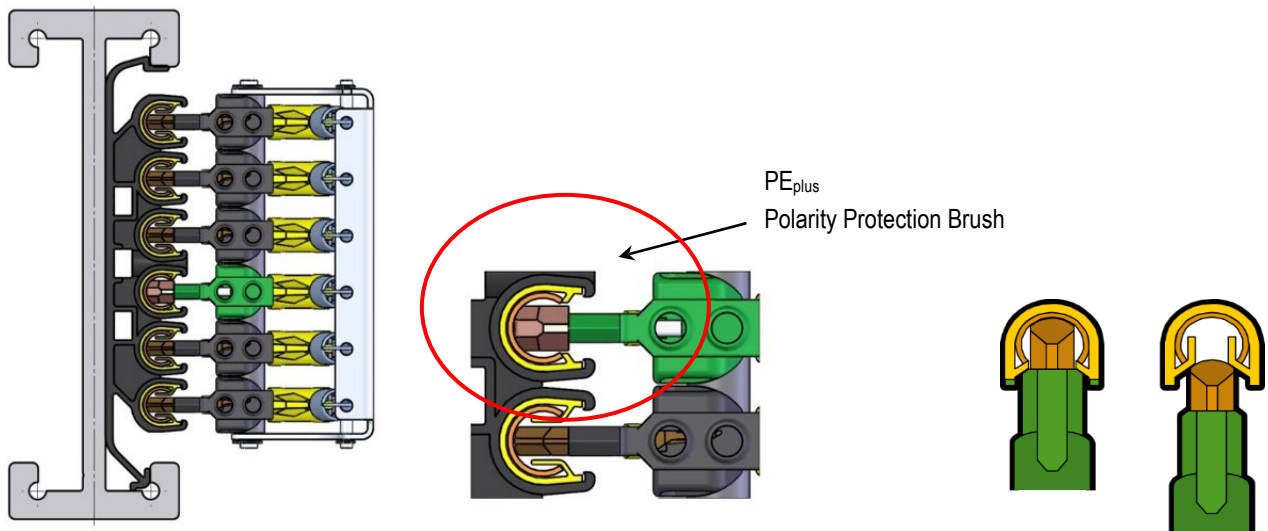


Fig. 1: Polarity Protection PE<sub>plus</sub>

#### 1.2 Copper-graphite Brushes compared to pure graphite Brushes

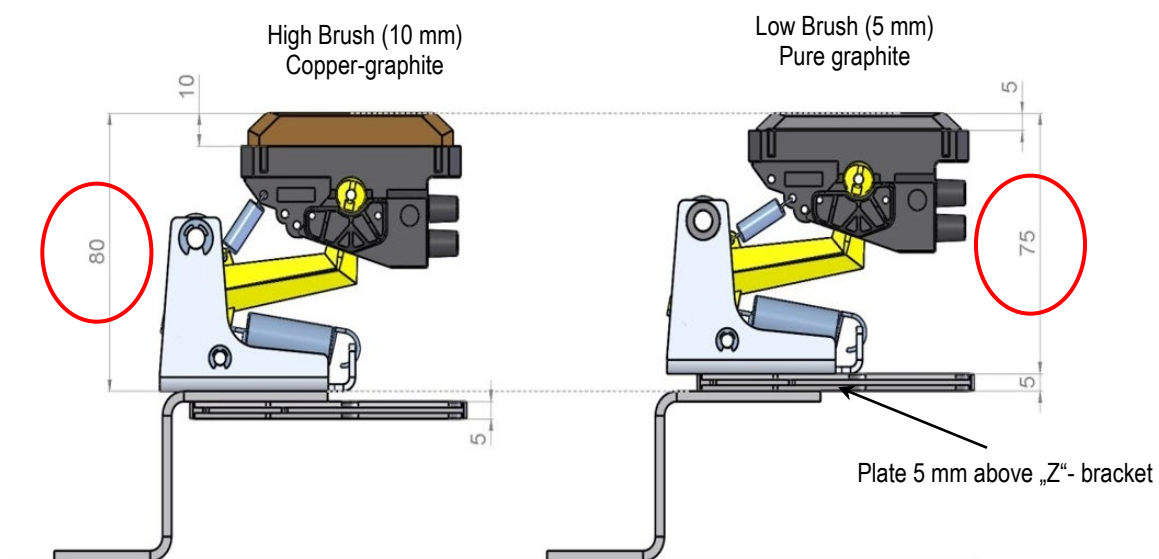


Fig. 2: Comparison of collectors with copper-graphite brushes and pure graphite brushes

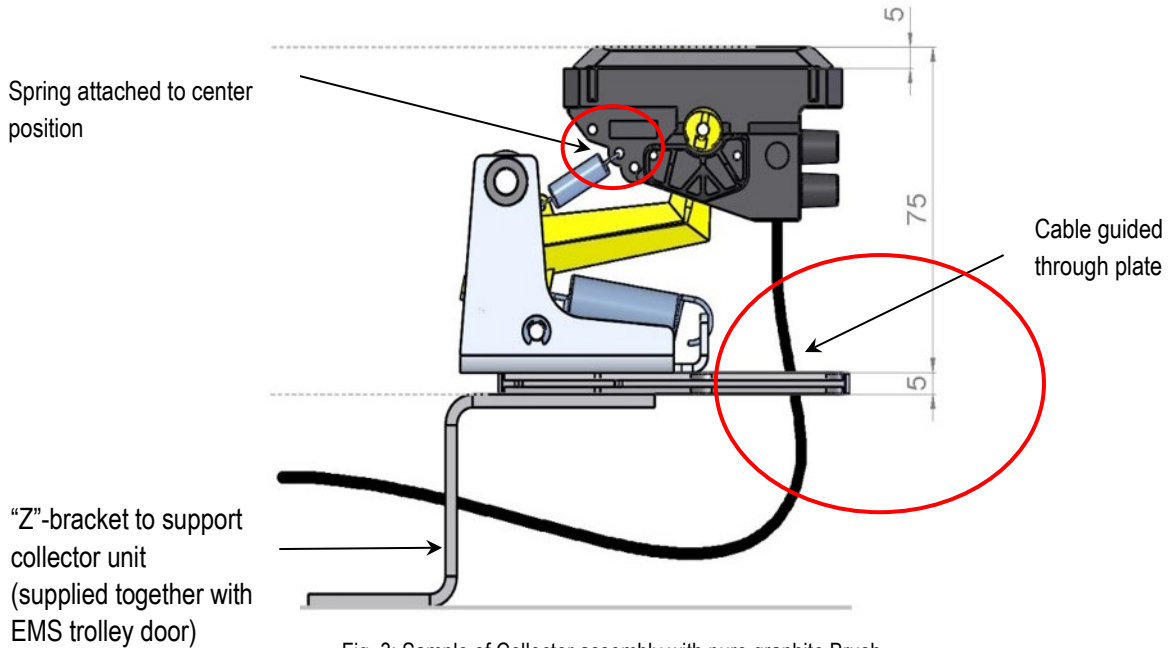
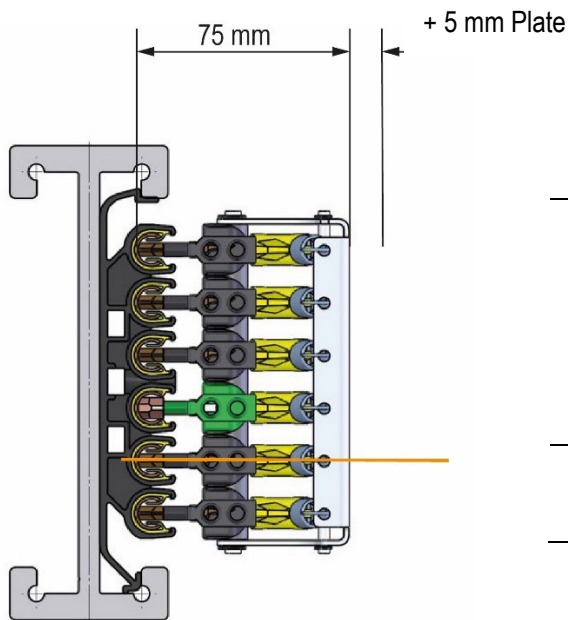


Fig. 3: Sample of Collector assembly with pure graphite Brush

### 1.3 Replace copper-graphite Collectors with pure graphite Collectors



1. Old copper- graphite collector height (when engaged): 80 mm (due to brush head with 10 mm height).  
New pure graphite collector height (when engaged): 75 mm (due to brush head with 5 mm height)  
Plate 5 mm must be used
2. Collector adjustment: Exact center line of copper rail and brush head to be kept

Fig. 4: Replace copper-graphite Collectors with pure graphite Collectors

## Conductor Bar in EMS-Systems Program 0811

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### 1.3.1 Mistakes to avoid

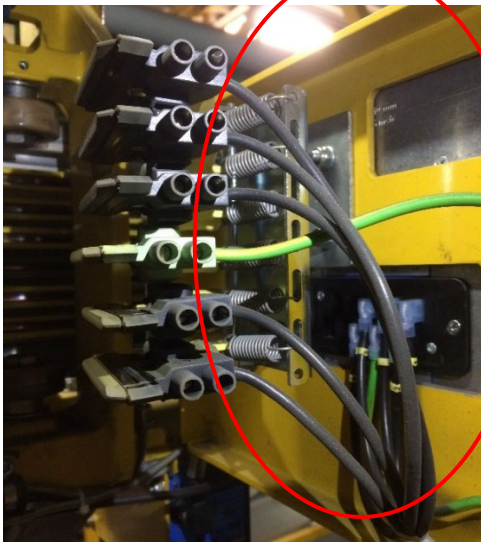


Fig. 5: Cables which are not installed correctly

1. Cables are not installed correctly:
  - No parallel cable guide
  - Cable bundle creates force on collector heads
  - Collector heads are not running parallel to conductor rail

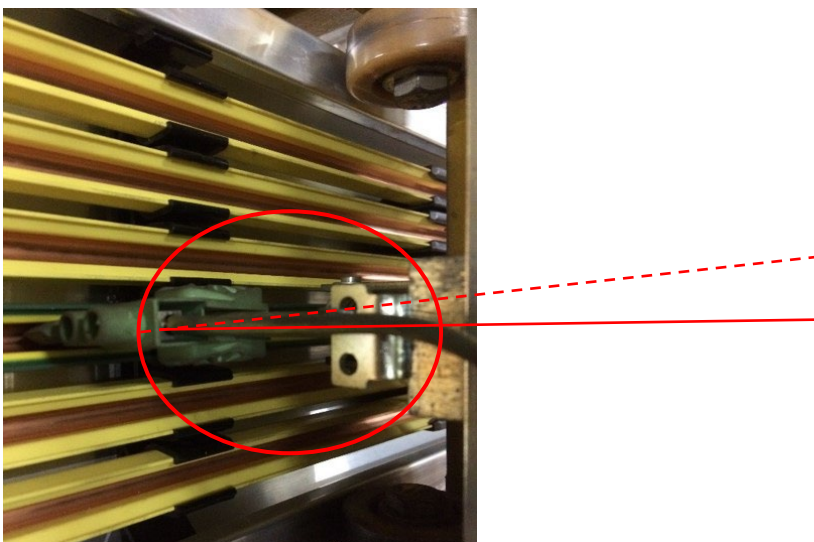


Fig. 6: Collector adjustment

2. Collector adjustment: Brush head not aligned properly (too high!) = Brush head runs permanently in an angle and grinds the plastic isolation of the conductor rail.

## Conductor Bar in EMS-Systems Program 0811

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### 1.3.2 Recommendations

- When EMS trolley doors are dismantled (for collector changes) make sure that all doors are marked with numbers (same as trolley numbers) to ensure that combination of doors and trolleys are kept.
- Check all collector support brackets ("Z"-bracket) for exact angles and parallel surface to trolley door and conductor rails.
- Check exact position of door hinges.
- Use proven Conductix-Wampfler high flexible cables.
- Do not bundle cables or use cable marker (negative influence of the collector).
- Check existing brush wear sensor unit (new set up needed).
- Make sure that all PE<sub>plus</sub> end caps of the conductor rails are green (indication for PE<sub>plus</sub> system).

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