



A message from Technical Standards



CitiPower/Powercor Technical Standards Update for June 2019

Please ensure that this information is passed on to all employees and contractors with in your organisation.

The following updates are relevant to all technical, field employees and contractors undertaking design, construction and maintenance activities on the CitiPower and Powercor networks.

Technical Standards are available on our [website](#).

All new design and construction proposals commenced after the 05 August 2019 are required to comply with these updates.

If you have further questions, please contact the relevant team member associated with the published documents.

Standard Category	Technical Standard	Description	Overview	Impacted Key Stakeholder/s
E - Overhead	EL021	Distribution Construction Standard - Overhead Transformers - LV Leads	Standards updated to include LV transformer isolation on smaller pole mounted transformers (SWER, 1 ϕ 10kVA to 50kVA and 3 ϕ 25kVA & 63kVA) instead of a LV junction box. Contact: Dean Bongetti - (03) 9683 2133	DESIGN CONSTRUCTION MAINTENANCE
	EL101	Distribution Construction Standard - Overhead Transformers Assembly - Single Phase & SWER - Wood Pole		
	EL103	Distribution Construction Standard - Overhead Transformers Assembly - Three Phase, Above LV - Wood Pole		
	EL106	Distribution Construction Standard - Overhead Transformers Assembly - Three Phase, Below LV - Wood Pole		

Standard Category	Technical Standard	Description	Overview	Impacted Key Stakeholder/s
E - Overhead	EL201	Distribution Construction Standard - Overhead Transformers Assembly - Single Phase & SWER - Concrete Pole	Refer to previous page	Refer to previous page
	EL203	Distribution Construction Standard - Overhead Transformers Assembly - Three Phase, Above LV - Concrete Pole		
	EL206	Distribution Construction Standard - Overhead Transformers Assembly - Three Phase, Below LV - Concrete Pole		
	EM191	Distribution Construction Standard - HV Isolator Assembly, Three Phase - Crossarm Mount	Standards updated to include two new isolator mounting brackets. Contact: Darren Martini - (03) 9683 4738	DESIGN CONSTRUCTION MAINTENANCE
	EM621-731	Distribution Material Standard - HV Fusing & Accessory		
	EM831-901	Distribution Material Standard - Switches & Isolators		
F - Public Lighting	FA091	Distribution Construction Standard - Public Lighting - Volt Drop	Standard updated to provide guidance on maximum route lengths for specific cables when undertaking Neutral & Supply Test (NST) during commissioning. Contact: Aza Masoudtehrani - (03) 9683 4892	DESIGN
G - Underground	GS021	Distribution Construction Standard - UG LV Mains - Pits & Pillars	Standards updated to include a new 710mm x 455mm rectangular service pit. Contact: Dean Bongetti - (03) 9683 2133	DESIGN CONSTRUCTION
	GS201	Distribution Construction Standard - Pit Assembly - Service		
	GS501-840	Distribution Material Standard - UG LV & Service - Materials		
	GS401	Distribution Construction Standard - Tee Joint Assembly - Service	Standards updated to include cover slabs for LV joints. Contact: Dean Bongetti - (03) 9683 2133	DESIGN CONSTRUCTION
	GS411	Distribution Construction Standard - Tee Joint Assembly - LV Mains		
	GS416	Distribution Construction Standard - Straight Joint Assembly - Service		
	GS421	Distribution Construction Standard - Straight Joint Assembly - LV Mains		
				LEGEND HIGH IMPACT MEDIUM IMPACT LOW IMPACT

GS series – LV joints

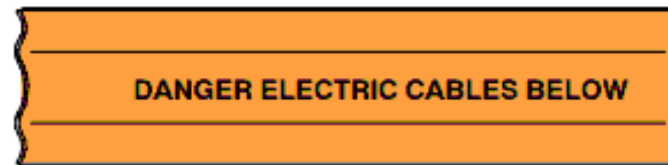
Key changes*

Release date: 05 July 2019

**Please refer to official standard for details*

What has changed?:

- Technical Standards GS401, 411,416 & 421 have been updated to include cover slabs



Why?:

- Feedback from material coordinators advised that cover slabs were missing from the LV joint standards. This required them to be ordered separately, causing re-work and issues when multiple joints were ordered at once.

EL Series – Overhead Transformers

Key changes*

Release date: 05 July 2019

*Please refer to official standard for details

What has changed?:

- Technical Standards in the EL series have been updated to include LV transformer isolation on smaller pole mounted transformers (SWER, 1Ø 10kVA to 50kVA and 3Ø 25kVA & 63kVA) instead of a LV junction boxes, to allow for easy isolation of the Transformer LV.
- Figure 1 of EL021 has been updated to create three separate figures (showing single and multiple circuit arrangements) as well as including transformer LV Isolating FSD's when 2 or more circuits are present.

Why?:

- Feedback from the Field Resources group advised that there wasn't appropriate LV isolation available for SWER, 1Ø 10kVA to 50kVA and 3Ø 25kVA & 63kVA pole mounted transformers. Causing safety issues such as potential back energisation if the transformer is placed under LV parallel.

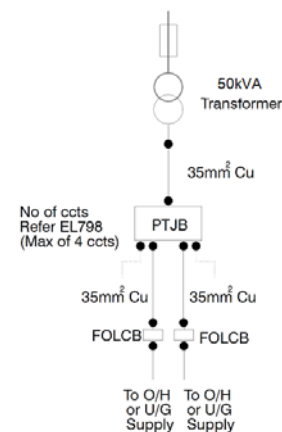


Figure 1 – Single Line Diagram, Single Phase up to 50kVA*, Three Phase 25kVA and 63kVA

* – Single phase 50kVA, 3 wire (230/460V) only. For 50kVA, 2 wire (230V) see Figure 2 below.

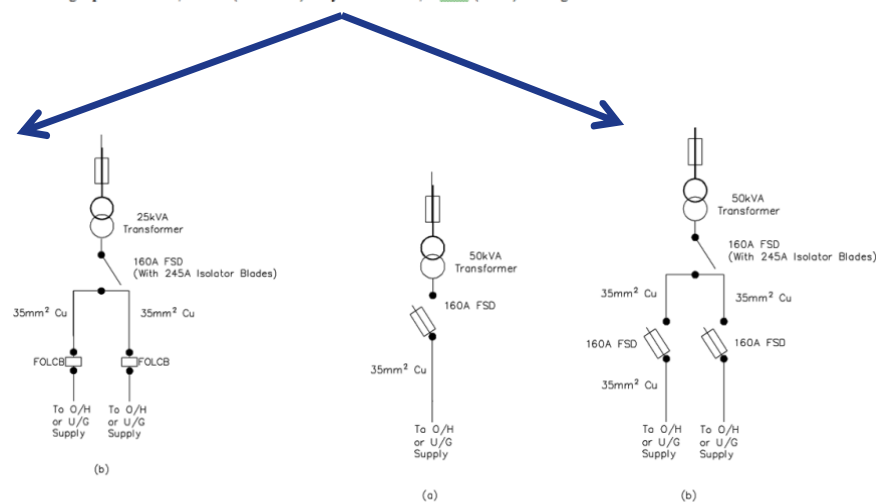


Figure 3 – Single Line Diagram, Single phase, 3 wire up to 50 KVA (230/460V)

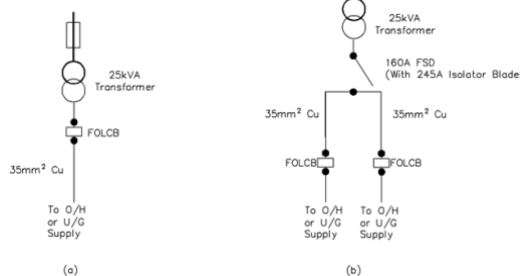


Figure 1 – Single Line Diagram, ALL SWER

EM Standard Series – Switches and Fuse Mounts

Release date: 05 July 2019

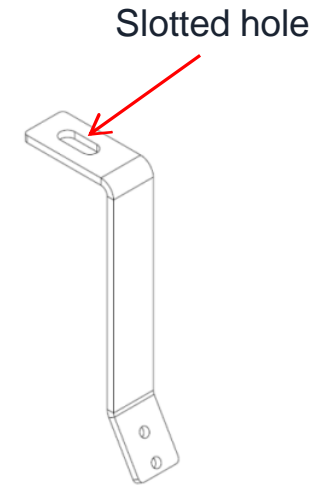
**Please refer to official standard for details*

What has changed?:

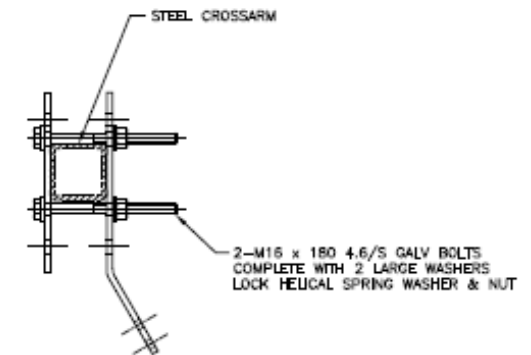
- Technical Standard EM871 which specifies the 630A HV isolator bracket (SAP material ID 350485), has been updated to now be supplied with a slotted mounting hole.
- Technical Standards EM644 (SAP material ID 355054) has been developed to include a new clamp type bracket. This bracket has been based on the NEMA bracket with some modifications

Why?:

- The slotted mounting hole for EM871 (HV isolation bracket) has been added to allow the bracket to be mounted on crossarms ranging from 100mm to 150mm, the previous version of the bracket with a single mounting hole did not align with the crossarm mounting hole for various crossarm sizes. The slotted mount now allows for this various.
- EM644 (clamp type bracket) has been developed to allow the bracket to be attached to crossarms ranging from 100mm to 150mm in situation where the crossarm can not be drilled.
- These changes have been done in conjunction with Works Practices and Bendigo Field Resources group



EM871 – slotted bracket



TYPICAL ASSEMBLY
SCALE 1:5

EM644 – clamp type bracket

FA091 - Public Lighting – Volt Drop

Release date: 05 July 2019

**Please refer to official standard for details*

What has changed?:

- Technical Standard FA091 has been updated to provide guidance on maximum route length for the specific cable to achieve 1 Ohm loop impedance with 10% contingency to have a higher chance of Neutral & Supply Test (NST) success during commissioning

Why?:

- The previous information within the standard was leading to a number of failed NST test results
- Upon review of the standard some errors in the calculation was found which resulted in values which did not align with actual on site NST measurements
- Updating the calculation and route lengths has now resolved this discrepancy

Max. Route Length (m)	Conductor Size
119	6 mm ²
376	16 mm ²
825	35 mm ²
1119	50 mm ²
2631	185 mm ²
3434	240 mm ²

GS Series – Rectangular Service Pit

Key changes*

Release date: 05 July 2019

**Please refer to official standard for details*

What has changed?:

- Technical Standard GS021 and GS201 has been updated to include a new 710mm x 455mm rectangular service pit
- These pits are for large CitiPower service installations only
- Material Standard GS501-840 has also been updated to include the new pit body, lid and gasket.

Why?:

- A previously used circular 600mm service pit is no longer able to be manufactured by the supplier due to CitiPower's low use volume. Therefore an off the shelf rectangular pit has been selected as a replacement.

