



GOVERNMENT OF PAKISTAN
POWER PLANNING AND MONITORING COMPANY



No.DS-DISCO-P-002-0001

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From

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To

SUBJECT: STANDARDIZATION OF LT AL- PVC CABLE SIZES TO BE USED IN APMS

Against the queries raised by multiple DISCOs and manufacturers regarding sizing and type of LT PVC/PVC Or LT PVC leads to be used in APMS project, it has been observed that some DISCOs are considering different non-standardized sizes of LT Al/PVC/PVC or Al/PVC cables for APMS projects. Such variations may lead to a lack of uniformity across DISCOs, delay and impose an additional financial burden on the project.

Therefore, with a view to ensure the standardization and optimum utilization of LT Al/PVC cables for APMS installations across all DISCOs, the current-carrying capacities of cables mentioned in DDS-8:2007 have been described as follows:

SINGLE CORE CABLE UNARMoured (AL/PVC CONDUCTOR)	Ampacity (A) @ 30'C ambient temp	Cable current carrying capacity @ 55'C temp. (Amp)	Cable current carrying capacity @ 50'C temp. (Amp)	Cable current carrying capacity @ 45'C temp. (Amp)	Cable current carrying capacity @ 40'C temp. (Amp)
25mm ²	100	61	70	79	87
70mm ²	191	117	136	151	166
120mm ²	273	167	194	216	238
185mm ²	364	222	259	288	317
300mm ²	501	306	356	396	436

*Current-carrying capacities have been considered with reference to BS 7671 for cables installed in air at a conductor operating temperature of 70°C.

For selection of LT cables against different distribution transformer ratings, the cable capacity should be adequate to cater for 125% of the rated full-load current of the transformer. Example of calculations and selection of cables calculated is follows:

Transformer Rating	Current at 125% Loading	Example of Al/PVC Cable Size per Phase considering 50°C ambient temperature
25 kVA	44 Amp	1 × 25 mm ²
50 kVA	87 Amp	1 × 70 mm ²
100 kVA	174 Amp	1 × 120 mm ²
200 kVA	348 Amp	1 × 300 mm ²

400 kVA	696 Amp	2 × 300 mm ²
630 kVA	1,096 Amp	2 × 300 mm ²

Accordingly, it is suggested that DISCOs may opt for standardized cable sizes on different APMS ratings as per their climate conditions & technical assessment.

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