



LV5⁺ Solar Power Station MV Step-up Transformer Data Sheet



IEC and IEEE Transformer Configurations

GE's LV5⁺ Solar Power Station combines GE Power Conversion's LV5⁺ 1500V solar inverter, with medium voltage step-up power transformer, optional MV switchgear, and various options for a reliable, plug & play, factory integrated power conversion solution for utility-scale solar installations.

Building on GE's expertise in the renewables industry, GE now offers its latest power conversion technology in a pre-assembled, containerized power station for efficient, cost effective and dispatchable solar power.

LV5⁺ Solar Power Station MV Step-up Transformer Features:

- IEEE or IEC configurations available
- Oil filled:
 - Mineral - ONAN (Standard)
 - Biodegradable - KNAN (Option)
- Available for 22 / 33 / 34.5 kV
- Standard and high efficiency option
- Extended monitoring available

GE LV5⁺ Solar Power Station MV Step-up Transformer Data

Specifications	Units	2.8 MVA Transformer	2.9 MVA Transformer	3.0 MVA Transformer	3.2 MVA Transformer
LV5 ⁺ Power Station Type		LV5 ⁺ 1560	LV5 ⁺ 1563	LV5 ⁺ 1566	LV5 ⁺ 1569
General Data					
Rated Voltage LV Winding	V	600	630	660	690
Rated Current LV Winding (at 35°C / 50°C)	Aac	3000 / 2655			
LV BIL	kVac	40 kV at 22 / 40 kV at 33 / 45 kV at 34.5			
Rated Power (at 50°C)	MVA	2.76	2.90	3.04	3.17
Maximum Power (at 35°C)	MVA	3.12	3.27	3.43	3.59
Number of HV / LV Windings		1 / 1			
Transformer HV / LV Connection		Δ (Delta) / Y (Wye)			
Rated Voltage HV Winding	kVac	22 / 33 / 34.5			
Rated Current HV Winding (at 50°C)	Aac	72 / 48 / 46	76 / 51 / 48	80 / 53 / 51	83 / 56 / 53
Rated Current HV Winding (at 35°C)	Aac	82 / 55 / 52	86 / 57 / 55	90 / 60 / 57	94 / 63 / 60
HV BIL	kV	150 kV at 22 / 200 kV at 33 / 150 kV at 34.5			
Rated Frequency	Hz	50 / 60			
Impedance	%	6 to 7			
Efficiency & Auxiliary Power					
Efficiency at 100% Load (Standard / High)	%	98.8 (Standard) / 99.1 (Option)			
No Load Losses (Standard / High)	kW	≤3.7 / ≤2.2	≤3.9 / ≤2.3	≤4.1 / ≤2.4	≤4.2 / ≤2.5
Full Load Losses (Standard / High)	kW	≤33.5 / ≤25.0	≤35.2 / ≤26.3	≤36.9 / ≤27.6	≤38.5 / ≤28.7
Protection Rating and Ambient Conditions					
Operating Temperature	°C	-25 to +50			
Temperature Rise Oil / Winding ¹	°C	50/55 (IEC) / 65/65 (IEEE Standard) / 55/55 (IEEE Hot Environment)			
Insulation Class		Class A / Class 105 Insulation System			
Maximum Altitude Without Derating ²	m / ft	2000 / 6562			

Specifications	Units	2.8 MVA Transformer	2.9 MVA Transformer	3.0 MVA Transformer	3.2 MVA Transformer
Features and Options					
Number of Phases				3	
Winding Material				Aluminium Coils	
Oil Type				Mineral - ONAN (Standard) / Biodegradable - KNAN (Option)	
Pressure Relief Valve				1	
Earthing Terminals				2	
Monitoring / Protection				DGPT2 or DMCR (IEC) / Temperature, Pressure & Level Monitoring Devices (IEEE)	
Tap Changer at HV Winding				No Load / Off Circuit	
Routine Tests				Included (as per IEC / IEEE Standards)	
Type / Design Tests				Option (as per IEC / IEEE Standards)	
IEEE Protection Features				Expulsion Fuses, Current Limiting Fuses, Disconnect Switch	
Maximum Total Weight (including Oil)	kg / lbs			approx. 7770 / 17130	
Maximum Oil Weight	kg / lbs			approx. 1890 / 4166	
Maximum Oil Volume	l / gal			approx. 2100 / 554	
Maximum Dimensions (L x W x H)	m / ft			2.2 x 2.7 x 2.3 / 7.2 x 8.9 x 7.5	
Standards					
Standards				IEC60076 or IEEE C57.12.00	

¹ Higher temperature for Biodegradable - KNAN Option according to IEC60076-14 & IEEE C57.154

² Higher altitudes (with derating) on request