

# Product data sheet

Specifications



## Transformer, Minera, Tier2, oil type, 160kVA, 15/20kV, 410V, 24kV

MIN016015202003

### Main

Product range	Minera
Product or component type	Transformer
Transformer type	Oil type transformer
Dielectric liquid	Mineral oil
Network type	AC
Standards	EN/IEC 60076 EN 50588-1
Type of installation	Indoor
Maximum altitude	< 1000 m
Cooling mode	ONAN (oil natural air natural)
Winding material	Aluminium
Degree of protection	IP21 low voltage cable box
Mounting mode	Ground mounted

### Complementary

Directives	2021/2014/548/EC- ecodesign
Phase	3 phases
Rated power	160 kVA
Rated frequency	50 Hz
Rated primary voltage	15/20 kV
Secondary voltage ( at no-load)	No load: 410 V
Insulation voltage to industrial frequency ( 50 Hz 1 mn)	50 kV primary 3 kV secondary
Rated insulation level	Primary circuit: 24 kV Secondary circuit: 1.1 kV
Lighting impulse whistand voltage ( BIL) , 1.2/50 µs	125 kV for primary circuit
Vector group	Dyn11
HV tappings (off circuit)	+/- 2 x 2.5 % +/- 2 x 3.3 %
Short circuit impedance	4 %
No-load losses	217.4 W

Load losses at 75°C	1925 W at 75 °C
Temperature rise of windings	60 K (oil) 65 K (winding)
Thermal class	A
Sound power level	35 dB at 1 m
Electrical connection	Plug-in bushing high voltage connection Porcelain bushing low voltage connection
Protective relay	DMCR relay
Locking options description	Without keylocks Bushing locking device
Height	1308 mm +/- 20 mm
Width	828 mm +/- 20 mm
Length	970 mm (+/- 20 mm)
Total weight	805 kg +/- 5 % 135 kg +/- 5 % oil

## Environment

Maximum ambient temperature	40 °C
Ambient air temperature for operation	-20...40 °C
Ambient air temperature for storage	-20...40 °C
Environmental certification	0...95 %
Corrosion category	C3

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	805.0 kg
Package 1 Height	130.8 cm
Package 1 Width	82.8 cm
Package 1 Length	97.0 cm

## Offer Sustainability

REACH Regulation	<a href="#">REACH Declaration</a>
REACH free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</a> Product out of China RoHS scope. Substance declaration for your information

## Recommended replacement(s)