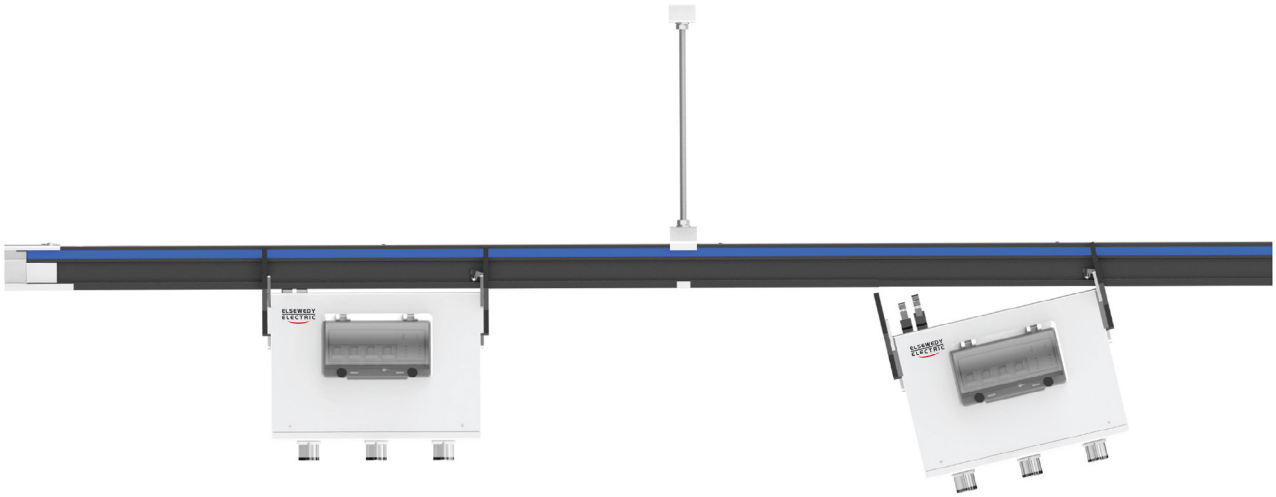
POWERTRACK

ELSEWEDY ELECTRIC

PowerTrack



CONTENTS

Company Profile

A leader in integrated energy, infrastruture, and digital solutions

We are a global leader that has evolved from a local manufacturer of electrical products into a giant provider of integrated infrastructure solutions; with over 19,000 employees and more than USD 5.13 billion in 2024. We operate in five key business sectors: Wire, Cable & Accessories, Electrical Products, Engineering & Construction, Digital Solutions, and Infrastructure Investments. With a strong presence in 19 different countries, 34 production facilities are spread across African and Asian countries including Egypt, Algeria, KSA, Qatar, Indonesia, Pakistan, and Tanzania. We export a wide range of high-end products to over 110 countries worldwide. At the heart of our approach is an all-in-one integrated Engineering Procurement & Construction (EPC) service which enables us to deliver the most complex turnkey projects on time and with the highest efficiency.

A vital part of our mission is ensuring that the communities where we operate develop and flourish. We work to facilitate the global transition toward a sustainable energy future whereby we established green energy projects and smart cities across Africa, the Middle East, and Eastern Europe. In alignment with our 2030 sustainability strategy, we aim to extend and enhance our positive impact, provide energy services to a growing customer base, and drive decarbonization, digitalization, and sustainable transition in Egypt and beyond.

Our growth has been driven by hiring talents and empowering businesses and communities where we operate. We enable customers to digitize, meet the challenges of an ever-changing world. Our extensive range of digital solutions allows them to become smarter, faster, more agile. We are committed to doing our best to serve our customers while caring for the environment. We aim to use our knowledge of environmental impact to better develop more sustainable business scenarios and evaluate future policies.

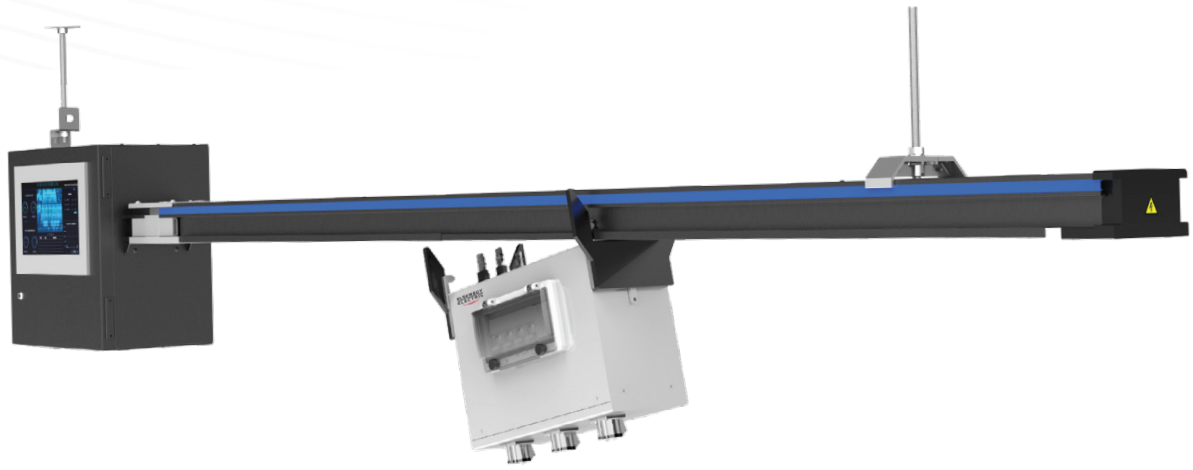
System Overview

The Open Track Type Busway is designed to meet power demands ranging from 160A to 1000A, with tap-off unit circuit breaker frames available from 16A to 125A. Its structure is based on a 3P5W system, offering output options including single-circuit, 3-circuit, 6-circuit, and other specifications.

The entire product series is fully compatible with tap-off units, featuring an innovative slide-rail type tap-off design. Installation is automatically locked, allowing power to be accessed at any point along the busway. The elastic joint design eliminates the risk of loosening that commonly occurs with traditional bolt-fastened joints.

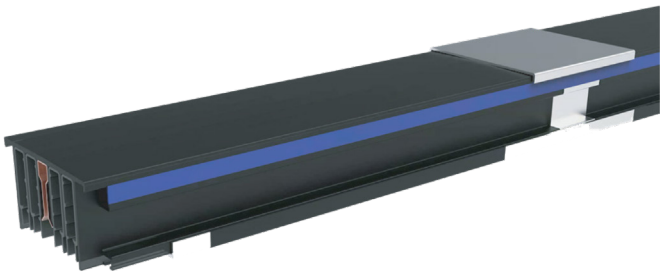
With advantages such as low temperature rise, excellent heat dissipation, high power distribution efficiency, flexible branching, and reliable stability, the Open Track Type Busway series is particularly well-suited for data centers and its demanding environment.

Product Features



POWERTRACK

- Busway 160A-1000A
- Tap-off unit 16A-125A
- Insertion at any position of busway
- Low temperature rise performance
- Remote telemetry, remote signaling, remote adjustment, remote control



PLUG-IN AT ANY POSITION

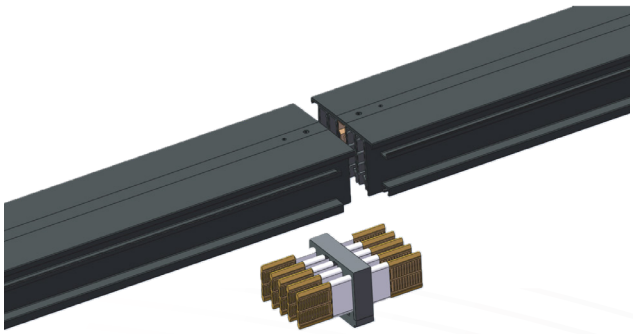
- Plup-in through entire length
- Millimeter adjustment
- Easy power supply

SLIDE TYPE TAP-OFF UNIT

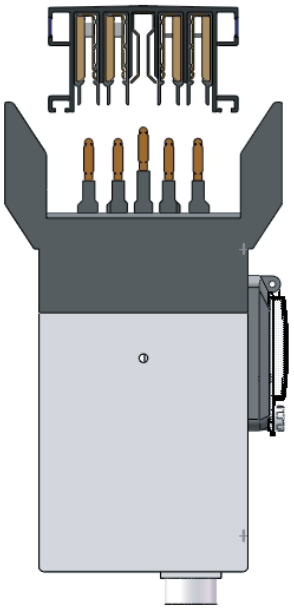
- Easy suspension, slide freely
- No tools required, automatic locking
- Could be quick completion by single person

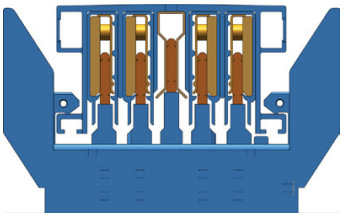
ELASTIC CONTACT JOINT

- Integrated installation
- No risk of loosening
- Automatic balance of contact pressure
- Installation error redundancy



Product Features



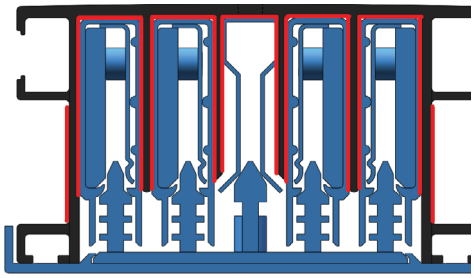


SAFE AND RELIABLE JOINT

- Double side contact self limiting
- Automatic locking in place (patent)
- PE pin comes out first)

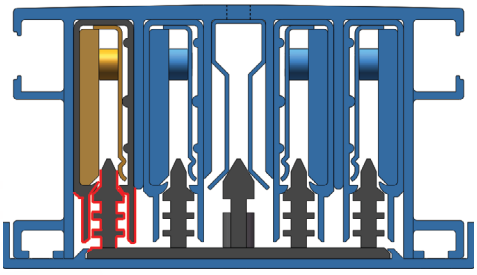
EXCELLENT THERMAL CONDUCTIVITY AND HEAT DISSIPATION

- Heat dissipation area increased to 150%
- Heat dissipation effect increased by 30%



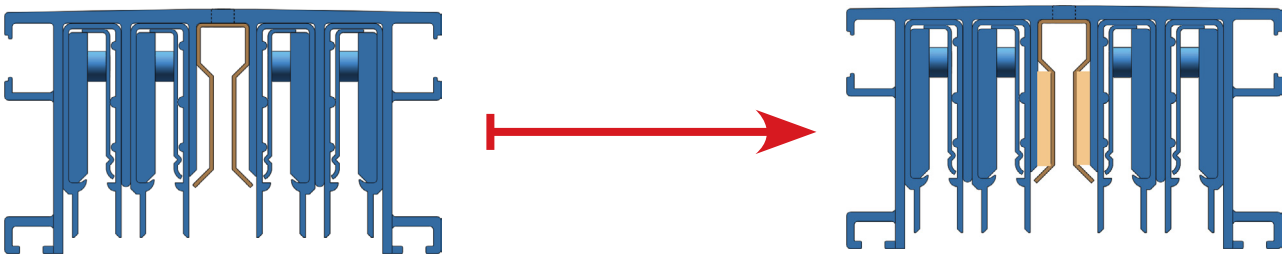
SAFE STRUCTURAL DESIGN

- No risk of interphase short circuit
- The maximum creepage distance is 60mm



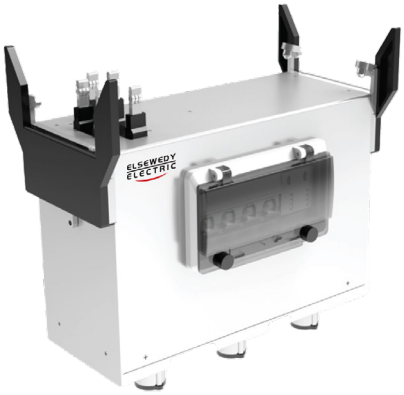
EXPANDABLE GROUNDING SYSTEM

- Independent PE expandable (up to 100%)
- Installation position can be customized



MODULAR PRODUCT STRUCTURE DESIGN

- Universal standard components for busbars
- Universal for all series of tap-off unit
- Flexible application scenarios



FLEXIBLE ADJUSTMENT AND CUSTOMIZATION

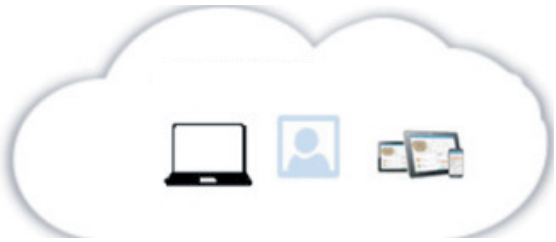
- Plug in assembly
- Standard groove sealing strip
- Snap closure plate

Product Features

INTELLIGENT SOLUTIONS

- GB/T 7251.8-2020
- Telemetry, remote signaling, remote regulation and remote control
- Cloud background and APP real-time operation

OVERVIEW

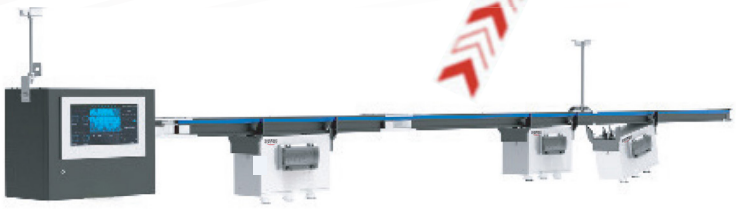


Cloud Platform

Dynamic Ring System

Local Monitor

Smart Gateway



Real-Time Measurement And Control

GENERAL PARAMETERS

Main material		
Conductor	T2 electrolytic copper	
Enclosure	Aluminum magnesium silicon alloy	
Conductor surface finish	Full-length silver plating	Can be changed according to user requirements
Enclosure finish	Epoxy resin powder electrostatic spraying	Can be changed according to user requirements
Structural properties		
Busway Protection	IP42	
Tap-off Unit Protection	IP42	
System	3L+N+Internal PE	
Tap-off unit output	Single circuit Three-circuit Six-circuit	Configure according to user requirements
Normal use conditions		
Tap-off unit output	Household	
Ambient temperature low	-5 °C	
Ambient temperature high	-5 °C	
Maximum relative humidity	Relative humidity nmt 50% at 40 °C	
Environmental pollution level	Grade 3	
Installation site altitude	≤ 5000m	
Installation mode	Horizontal mounted, can be hoisted or mounted in cable slots under floor	

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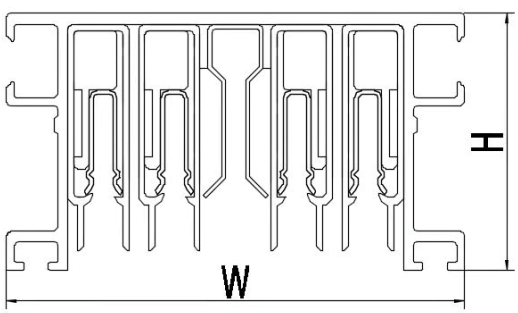
Technical Parameter

BUSWAY

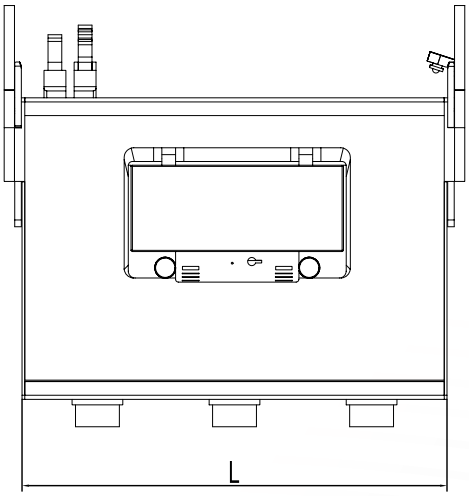
Alternating current (AC) current class A	-	250	400	500	630	800	1000
Direct current (DC) current class A	315	400	630	800	1000	1200	1600
Bus section height H/mm	70					70	95
Bus section width W/mm	120						
Rated short-time withstand current kA	10			20	30	40	50
Rated peak withstand current kA	17			40	63	84	105
Rated working voltage (without tap-off unit) V	1000						
Rated working voltage (with tap-off unit) V	400						
Rated insulation voltage (without tap-off unit) V	1000						
Rated insulation voltage (with tap-off unit) V	500						
Rated impulse withstand voltage (without tap-off unit) kV	8						
Rated impulse withstand voltage (with tap-off unit) kV	6 (63A) / 4 (80-125A)						
Meter weight kg/m	6	7	8.5	10.2	14	16	21
Resistance R (full load) mΩ/m	-	0.4197	0.2760	0.1525	0.1162	0.1017	0.08307
Reactance X mΩ/m	-	0.0839	0.0672	0.0721	0.0669	0.0586	0.0502
Impedance Z mΩ/m	-	0.4280	0.2840	0.1690	0.1340	0.1170	0.0971
*Voltage drop (ambient temperature 35, full load, load distribution coefficient 1) v/m							
Power factor=1	-	0.1817	0.1912	0.1320	0.1268	0.1409	0.1439
Power factor=0.95	-	0.1840	0.1962	0.1449	0.1432	0.1592	0.1638
Power factor=0.9	-	0.1736	0.1962	0.1460	0.14591	0.1622	0.1674
Power factor=0.85	-	0.1736	0.1962	0.1451	0.1462	0.1626	0.1681
Power factor=0.8	-	0.1672	0.1962	0.1431	0.1452	0.1615	0.1673

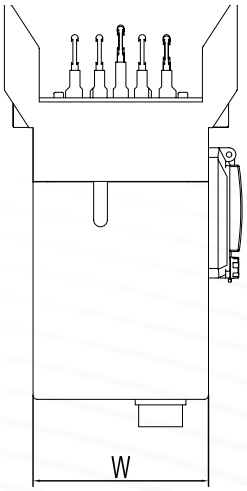


TAP-OFF UNIT

Frame current of tap-off unit circuit breaker A	16~63A	80~125A
Tap-off unit height (H/mm)	220	
Connector box thickness (W/mm)	128	
Tap-off unit length (3-way output tap-off unit) (L/mm)	336*	550*
Intelligent module (U, I, GB/T 7251.8-2020)	Optional	
Intelligent module (U, I, T, GB/T 7251.8-2020)	Optional	
Tap-off unit output channel	Standard 3-way, optional single-way, 6-way	
Tap-off unit output form	Standard fixed socket, optional active socket or cable terminal	
Tap-off unit installation form	Vertical/Horizontal	

* The length and dimension of the tap-off unit may vary according to the configuration

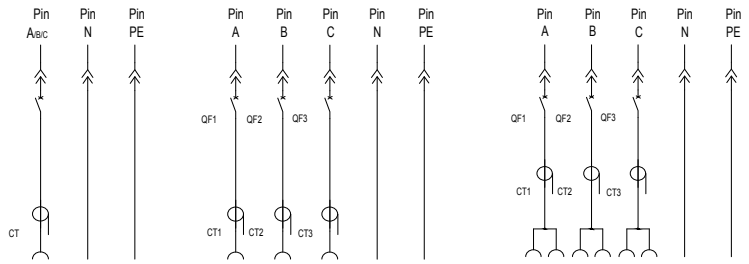
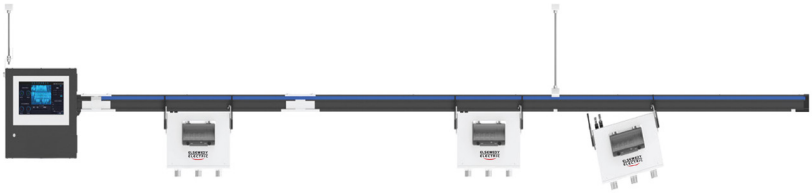




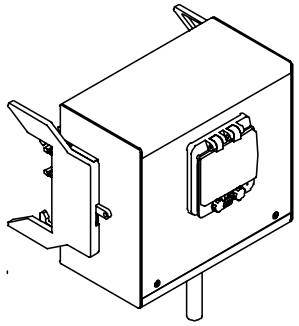
ELSEWEDY ELECTRIC

Function Unit

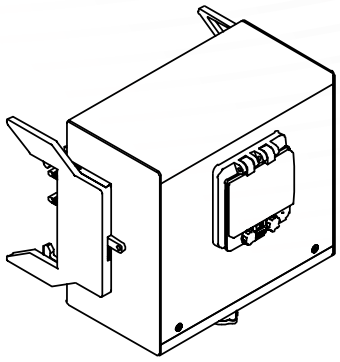
OUTLINE DIMENSION DRAWING OF TAP-OFF UNIT

Structural properties	Single circuit single-phase Three-circuit single-phase Six-circuit single-phase
Tap-off diagram (e.g.circuit-breaker protection)	
Rated current (A)	16~100A
Dimensions (L×W×H mm)	268 × 170 × 220 336 × 170 × 220 550 × 170 × 220
Installation mode	Vertical
Simulation diagram	
Outlet	Straight out cable Fixed industrial socket Movable industrial socket

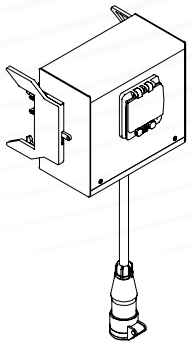
SINGLE CIRCUIT SINGLE-PHASE



Straight out cable

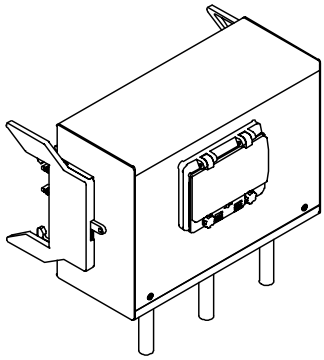


Fixed industrial socket

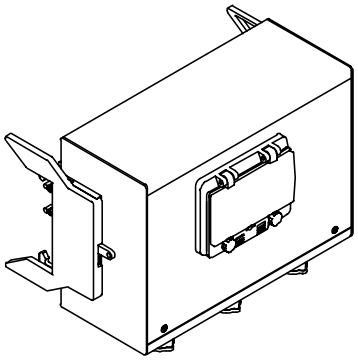


Movable industrial socket

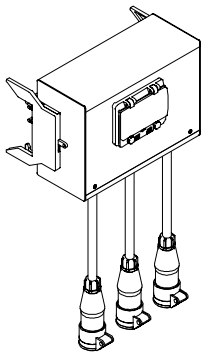
THREE-CIRCUIT SINGLE-PHASE



Straight out cable

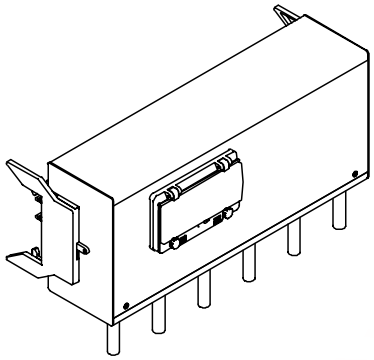


Fixed industrial socket

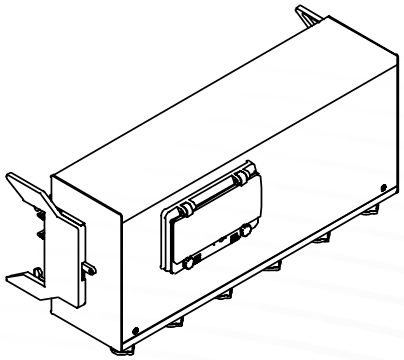


Movable industrial socket

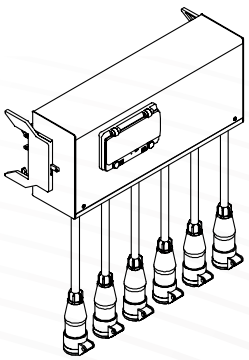
SIX-CIRCUIT SINGLE-PHASE



Straight out cable



Fixed industrial socket



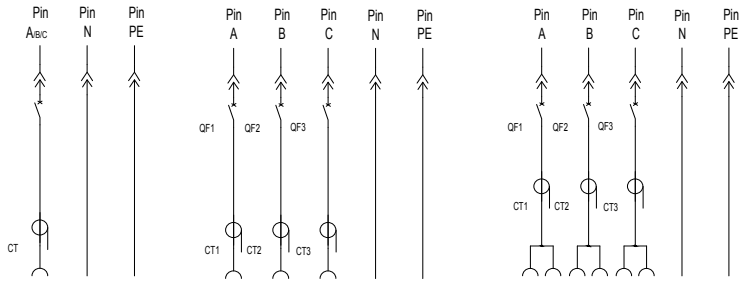
Movable industrial socket

Note: The standard configuration is three-circuit single-phase, which can be customized according to user requirements.

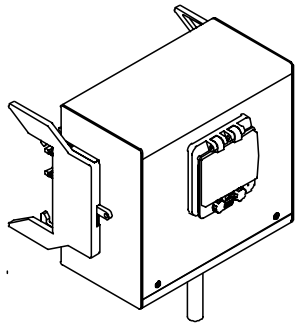
ELSEWEDY ELECTRIC

Function Unit

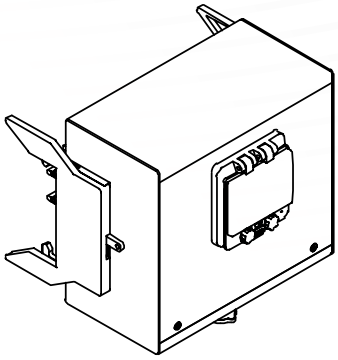
OUTLINE DIMENSION DRAWING OF TAP-OFF UNIT

Structural properties	Single circuit single-phase Three-circuit single-phase Six-circuit single-phase
Tap-off diagram (e.g.circuit-breaker protection)	
Rated current (A)	16~100A
Dimensions (L×W×H mm)	268 × 128 × 220 336 × 128 × 220 550 × 128 × 220
Installation mode	Horizontal
Simulation diagram	
Outlet	Straight out cable Fixed industrial socket Movable industrial socket

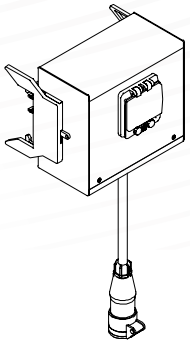
SINGLE CIRCUIT SINGLE-PHASE



Straight out cable

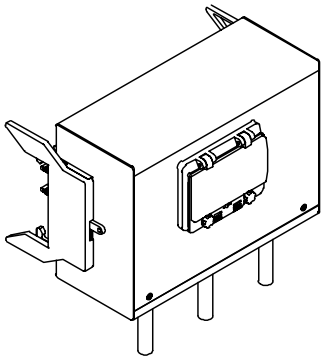


Fixed industrial socket

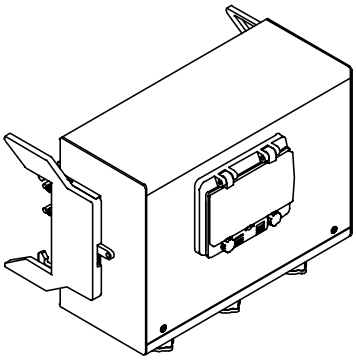


Movable industrial socket

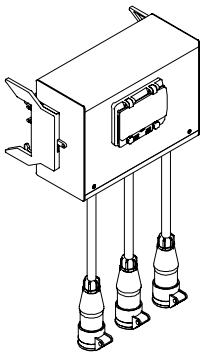
THREE-CIRCUIT SINGLE-PHASE



Straight out cable

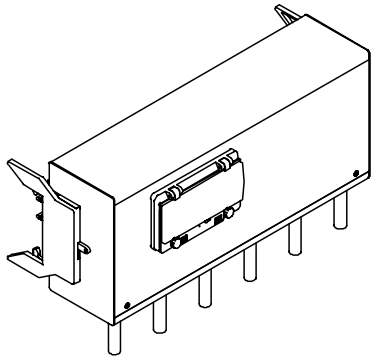


Fixed industrial socket

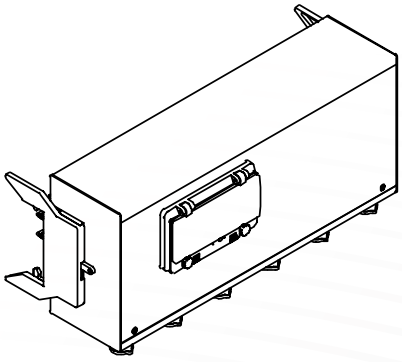


Movable industrial socket

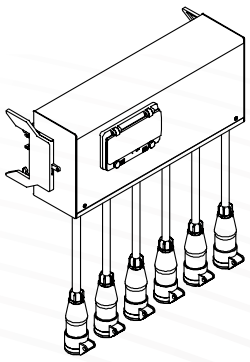
SIX-CIRCUIT SINGLE-PHASE



Straight out cable



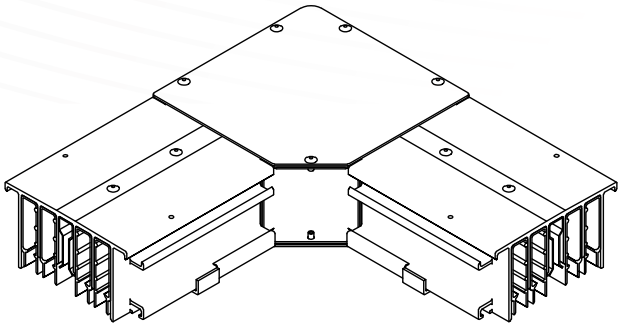
Fixed industrial socket



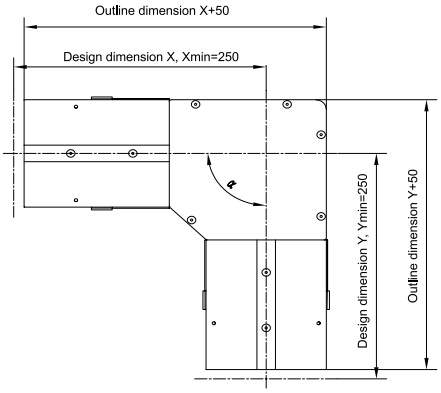
Movable industrial socket

Note: The standard configuration is three-circuit single-phase, which can be customized according to user requirements.

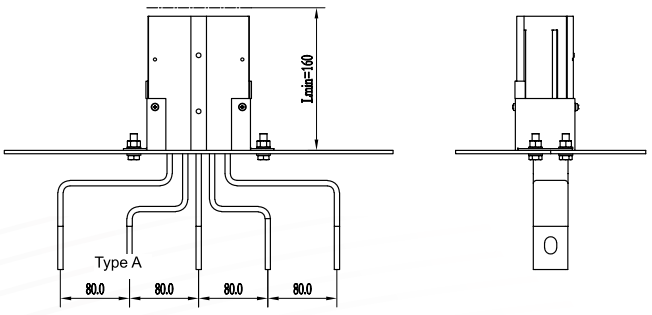
Function Unit

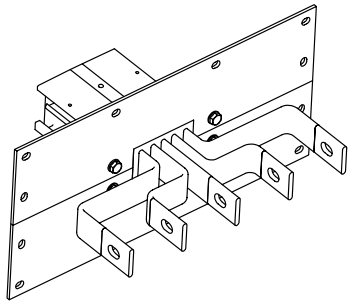


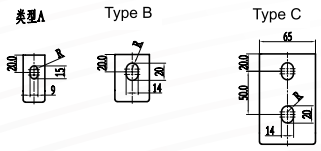
Elbow



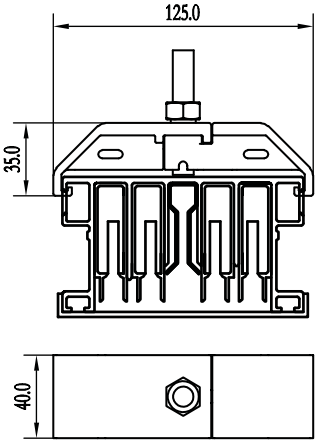
Noted: Customizable angle

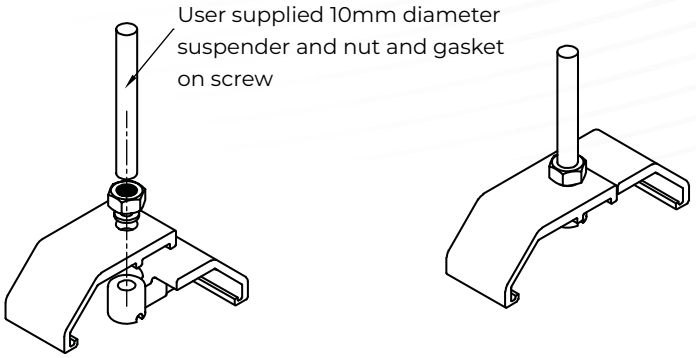






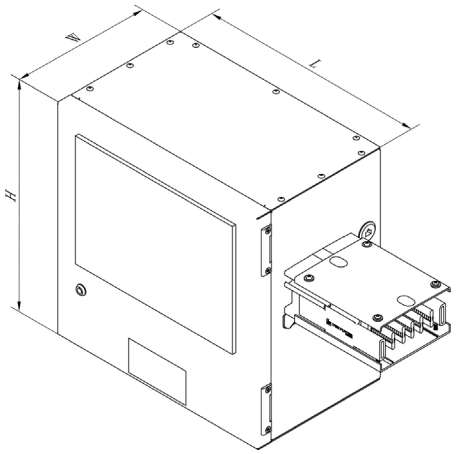
Flange end



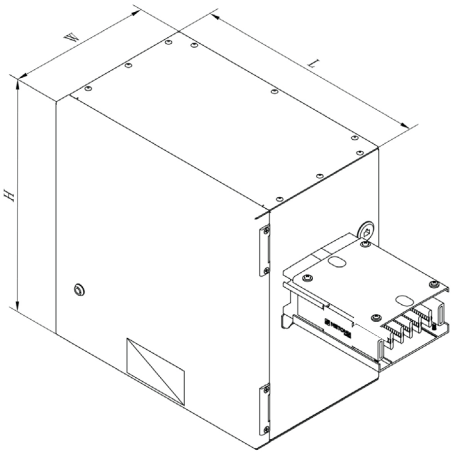


Hanger

Feeder box with touch screen



Feeder box without touch screen



Optional Integration of Intelligent Monitoring Modules

The functions of electric energy and temperature monitoring devices are listed below.
Function description of electric energy monitoring features:

ELECTRIC ENERGY MEASUREMENT OPTIONS	
Measuring function	Phase/Line Voltage
	Current
	Active/reactive power
	Apparent power
	Power Factor
	Mains Frequency
	Voltage/Current total distortion rate
	Fundamental voltage/current
Metering function	Positive/reverse with/without power
	Apparent energy
	Fundamental Forward/Reverse Active/Reactive Energy
Extreme Value Record	Daily extreme data recording (phase voltage, line voltage, current, power, power factor, grid frequency)
	Monthly extreme data recording (phase voltage, line voltage, current, power, power factor, grid frequency)
	Annual Extreme Value Data Recording (Phase Voltage, Line Voltage, Current, Power, Power Factor, Mains Frequency)
Data storage	Electrical parameters according to storage (phase/line voltage, current, active/reactive power, apparent power, power factor, grid frequency, voltage/current total distortion rate, fundamental voltage/current, forward/reverse active reactive power, apparent power)
	Power data storage (forward/reverse with/without power, apparent power)
	Alarm information storage (voltage, current, active power, reactive power, power factor, grid frequency)
Parameter Settings	Threshold, Variation Ratio, and Other Parameter Settings

WEBVIEW MONITORING SOFTWARE FOR ENERGY MEASUREMENT AND ANALYSIS

WEBVIEW is a web-based software delivering real-time monitoring of all measurements from up to 200 devices and displaying the breakdown of energy consumptions. Uncover the causes of electrical disturbances and anticipate maintenance requirements thanks to historical records of multiple electrical parameters

.

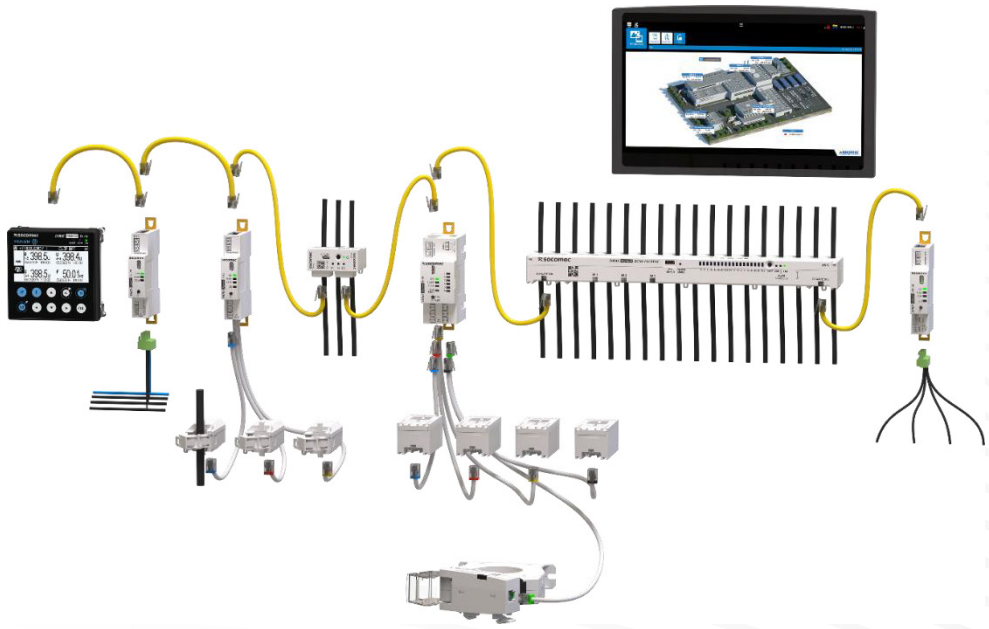
Pre-set alarms defined by the user can be sent by e-mail. Users can access WEBVIEW via a web browser on a PC or a tablet.

- Sub-metering of consumptions with breakdown per load, usage and area
- Multi-utility approach by collecting pulses from 3rd-party meters (water, gas)
- High accuracy for the global measurement chain (class 0.5)
- Multi-tariff management (time schedules, digital input or manual)

Monitoring
- Visualization of real-time measurements.
- Power quality analysis of the electrical network and loads.
- Visualization of measurements on a user-customizable dashboard.

Alarming
- Overview of active alarms.
- Log of finished alarms.
- Email notification when a new alarm is activated.

Analysis
- High storage capacity of consumption and measurement trends.
- Breakdown of consumption by location, usage and utility type.
- Automatic export of stored data in CSV format with customizable layout for easy integration into any 3rd-party EMS.



Optional Integration of Intelligent Monitoring Modules

Function description of temperature monitoring features:

TEMPERATURE MONITORING FEATURES	
Measuring function	Busway Joint temperature measurement
Extreme Value Record	Daily Temperature Extreme Data Logging
	Monthly Extreme Temperature Data Logging
	Annual Extreme Temperature Data Record
Data storage	Temperature Data Storage
	Alarm information storage
	Annual Extreme Value Data Recording (Phase Voltage, Line Voltage, Current, Power, Power Factor, Mains Frequency)
Parameter Settings	Alarm Temperature Value Setting

TEMPERATURE MONITORING

Bus Duct Solutions are supplied as a complete kit containing the following components:

Component 1
Bus Duct Datacard

The data from the sensors is collected in the DIN rail mounted Datacard and converted to Modbus protocol for onward transmission enabling both remote alarms and pass through of raw data to client host system (e.g. EPMS / BMS) for storage, trending and further integration.

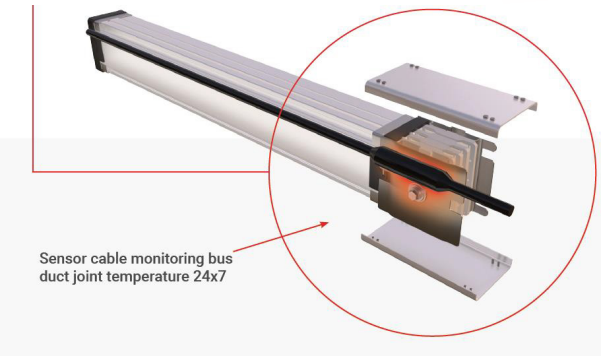
Component 2
Bus Duct Sensor Cable

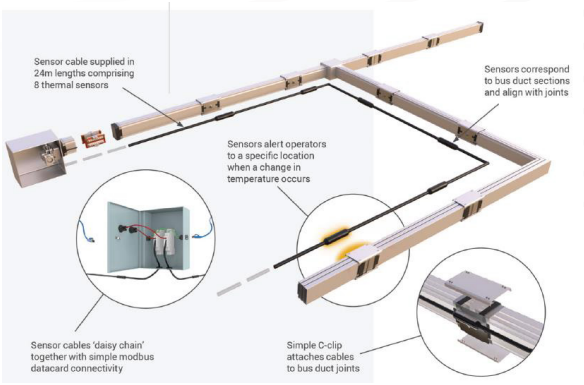
The sensor cable contains 8 thermal sensors pre-labelled S1 through to S8, which are clipped on the bus duct joints using C-clips built onto the bus duct.

Component 3
Bus Duct Alarm LED

The LED unit is connected to the Bus Duct Datacard via the pre-wired 3 way connector. This allows visual indication of alarm severity and location remote from the Bus Duct Datacard.

TECHNICAL DATA





Bus Duct Datacard - Serial	
Input voltage	12 - 24 VDC
Input Voltage Tolerance	±10%
Maximum current consumption	30 mA
Field Bus protocol	Modbus RS485 , 2 wire
Baudrates	9k6, 19k2, 38k4, 57k6
IP Rating	30 (not UL evaluated)
Dimensions (mm)	95 x 60 x 26
Weight	80g
Mounting	DIN rail
Configuration	via DIP switches
Accuracy	Dependent on accuracy of input devices
Sampling rate	1 s
Housing Material	ABS - UL 94 V0
Safety Protection	Class III
Isolation	RS-485 500V
Function	Temperature monitoring, alarm generation

Environmental	
Operating Range (temp)	-20 to 70°C
Storage Temp	5 to 40°C
Humidity (RH)	0-95% non condensing
Storage	Store protected from dust and direct sunlight
Pollution	Degree 2
Altitude	Up to 2000m

Bus Duct LED Unit	
LED Viewing Angle	for HLMP-4000 65°
Cable type	UL2464
Cable rating	-80°C
Cable length	100 cm

Bus Duct Sensor Cable	
Sensor type	Epoxy coating NTC MF52 (or similar)
Output cable	AWM 20327 AWG24 105°C
Cable Rating	2500V AC 1s
Cable length	2900cm (95 feet)
Housing Material	TPE
Connector	Molex 43025-1600 or equivalent

Environmental	
Operating Range (temp)	-40 to 110°C
Storage Temp	5 to 40°C
Humidity (RH)	0-95% non condensing
Storage	Store protected from dust and direct sunlight

Bus Duct Controller	
Input voltage	12 - 24 VDC
Input Voltage Tolerance	±10%
Maximum current consumption	30 mA
Field Bus protocol	Modbus RS485, 2 wire
Baudrates	9k6, 19k2, 38k4, 57k6
IP Rating	30
Dimensions (mm)	98 x 60 x 26
Weight	80g
Mounting	DIN rail
Configuration	via DIP switches
Sampling rate	30s
Housing Material	ABS – UL 94 V0
Safety Protection	Class III
Isolation	Slave RS-485 500V
Function Modbus	Gateway

Environmental	
Operating Range (temp)	-10 to 105°C
Storage Temp	5 to 40°C
Humidity (RH)	0-95% non condensing
Storage	Store protected from dust and direct sunlight

ELSEWEDY ELECTRIC

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