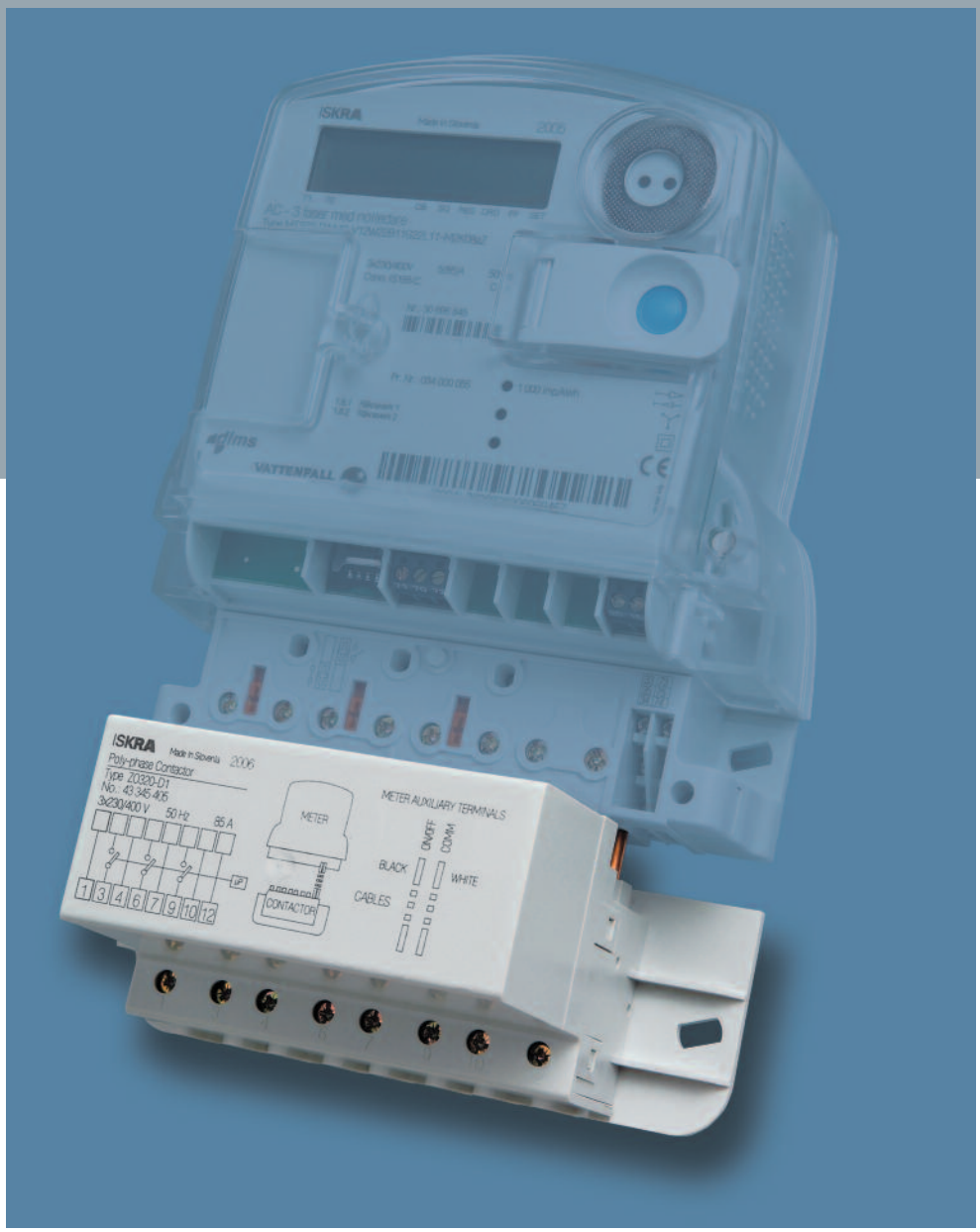
ISKRAEMECO

Energy Measurement and Management

ZO3

Polyphase switching device

ZO3x... is a polyphase plug-in switching device with optional integrated surge protection for local or/and remote disconnection and reconnection of electric power to consumers. It forms a unit together with a three-phase meter. The switching device is manufactured in compliance with IEC 62052-11, IEC 62053-21, ISO 9001 and designed according to even higher internal Iskraemeco standards, based on 60 years of experience of meter manufacturing and more than 55 million meters installed worldwide.



- Two in one: switching device and surge protection (optional)
- Removable plug-in unit
- Long lifetime operation (1,000,000 actions)
- Remote and/or local control

	Polyphase switching device
	Surge protection
M-Bus	Passive M-Bus

FUNCTIONAL AND TECHNICAL DATA

ZO3x… polyphase switching device with optional surge protection is an external plug-in unit that disconnects and reconnects a user's part of electric network when connected to the meter current external terminals. The switching device is provided with a terminal cover with sealing facility.

Its assembly is simple. One part is inserted in the meter terminal block and another part is a terminal block extension. A meter with a switching device complies with the DIN 43857, IEC 62052-11 and IEC 62053-21 standards.

The housing of a switching device is made of high quality polycarbonate assuring resistance to high temperatures, voltage breakdown and mechanical strength.

Over-voltage protection (optional)

Over-voltage protection from partial direct and indirect atmospheric discharges can be built in the ZO3x… switching device. The switching device with surge protection is intended for protective zone 1-2. It complies with the IEC 61643-1 standard.

An over-voltage module in a ZO3x… protection unit is provided with a built-in thermal protector that safely breaks overloaded protection element.

Meter connection

Switching device input terminals are connected directly into the meter output terminals. The switching device enables connection to three-phase meters, type MT37x... with a built-in external switching device control.

Connection terminals of the ZO3x… switching device are the same type and version as connection terminals on the meter which the unit is connected to.

Since the switching device and the meter form a unit, the same water and dust protection is valid for both of them.

Operation

The meter controls the switching device via control output or via M-Bus (IEC 870-5). Control can be performed locally (from the meter) or from a remote control centre using the meter AMR communication.

Required power supply for the switching device is assured directly from network voltage.

Indications: switching device states (ON–OFF) are displayed on the meter LCD. They are also recorded in the meter status registers. These registers are available for remote meter reading and monitoring.

Nominal voltage **Un**	3x230 V / 400 V (or as per agreement)
Voltage range	0.8 Un to 1.15 Un
Nominal frequency	50 Hz or 60 Hz
Maximum current **Imax**	85 A (DIN 43857), 120 A (BS)
Switching device	three or four 100 A (120 A) bistable relays
Switching device lifetime mechanical	1,000,000 switching
Operating temperature	- 40°C to +80°C
Dielectric strength	4 kV, 50 Hz, 1 min
Shock voltage	< 8 kV, 1.2/50 µs
Short-circuit current	30 Imax
Fast voltage bursts	4 kV (IEC 801-4)
Dimensions	170.5 x 100 x 70 mm
Mass approx.	0.7 kg

SURGE PROTECTION (option)

Type	**ZO3…P1**	**ZO3…P2**
In accordance with	IEC-61643-1	
Category IEC / VDE	II / C	
Max. continuous operating voltage (AC/DC) **Uc**	320/420 V	440/580 V
Nominal discharge current (8/20) **In**	20 kA	20 kA
Max. discharge current (8/20) **Imax**	40 kA	40 kA
Protection level **Up** - at In (8/20)	1.5 kV	2.2 kV
Follow current If	NO	
Response time **tA**	< 25 ns	
Residual current at Uc **IPE**	< 1.5 mA	
Thermal decoupler	YES	
Back-up fuse (if mains > 125 A)	125 A gL	
Short-circuit withstand	25 kA / 50 Hz	

Options

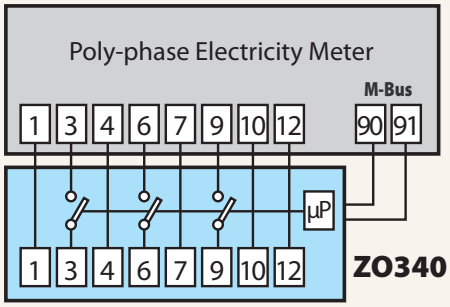
The switching device can be manually operated by the blue push button on the meter. This option enables the customer to disconnect and reconnect voltage in a flat or a building. When reconnecting to network, a command from the meter (a distribution centre) has precedence over a manual switch-on.

DEVICE TYPE DESIGNATION

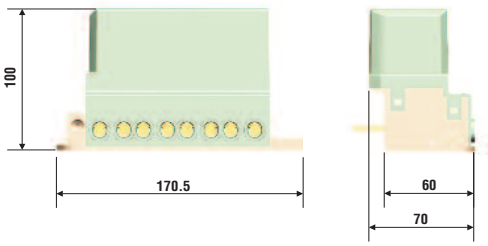
ZO340–D1

- **ZO** – Switching device
- **3** – Three-phase switching device
- **4** – Three-phase + neutral
- **2** – Control with processor logic
- **4** – Passive M-Bus comm. interface
- **0** – Type of housing
- **D** – For directly connected meter
- **1** – Terminal block 85 A (DIN standard)
- **2** – Terminal block 120 A (BS standard)
- **P** – Protection from atmospheric discharges (option)
- **1** – 320/420 V (1.5 kV)
- **2** – 440/580 V (2.2 kV)

CONNECTION DIAGRAM



HOUSING DIMENSIONS



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