

PROTECTION & CONTROL

CBS-2000AB

Type A + type B multichannel
leakage current monitoring relay

Complete monitoring in a compact device.



Leakage current monitoring is key to detecting potential insulation problems in loads and installations. An insulation fault in conductors or loads, such as motors or pumping systems, can jeopardize the continuity of supply to the installation, resulting in service outages and considerably higher operating costs.

By using monitoring units, you can track multiple circuits using a single device, saving both space and cost. This solution is ideal for TT, TN-S and IT systems, where it is essential to ensure continuity of supply, by checking in real time the correct operation of the connected circuits or loads, and anticipating any problems that may cause a future service outage, or letting you plan maintenance and repair actions far enough in advance to avoid unexpected repairs or faults.

Another problem to consider when measuring leakage is the presence of loads with AC/DC converters, such as three-phase drives, UPS or electric vehicle charging points, since they can cause a DC leakage that is not detectable by type-A relays. To obtain precise readings of this type of leak, the ideal thing is to install type-B protection. For this reason, the units that combine type A and type B protection in a single device solve these problems, ensuring service continuity in any condition.

CBS-2000AB



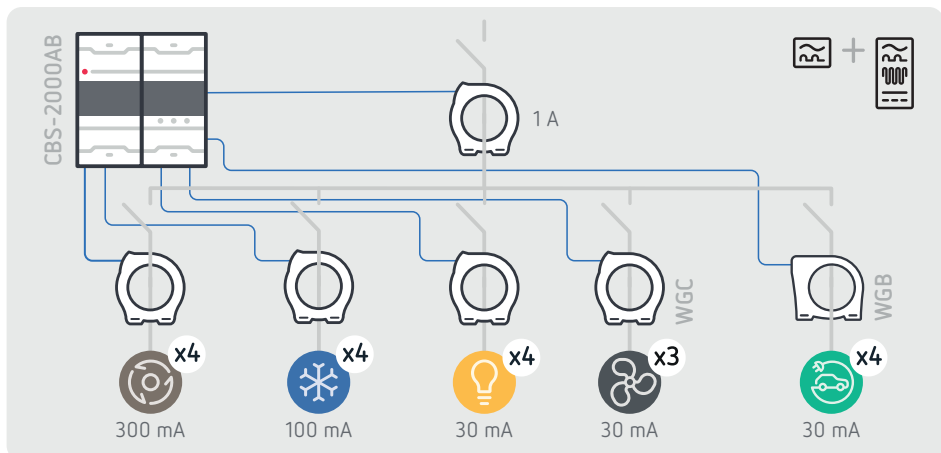
Type A + type B multichannel leakage current monitoring relay

The **CBS-2000AB** is a differential current monitoring unit (IEC 62020) that has 16 type-A channels (IEC 60755) that are compatible with the **WGC** range of transformers, and 4 type-B channels (IEC 60755) that are compatible with the **WGB** range of transformers. This feature makes it the ideal solution for installations with diverse loads that require different types of leakage current monitoring.

Ideal for distribution panels with multiple lines or loads to control, combining in a single device monitoring of leaks and loss of insulation in conductors or loads, while minimizing space usage and reducing the installation cost.

- Real-time display and monitoring
- Preventive maintenance through alarms
- 16 Type-A channels (AC leaks)
- 4 Type-B channels (AC + DC leaks)
- Leakage monitoring at the main electrical panel, distribution panels and loads all in one device
- Remote management through communications
- Space and cost savings
- Ideal for TT, TN-S and IT systems.
- Versatility for all types of installations.

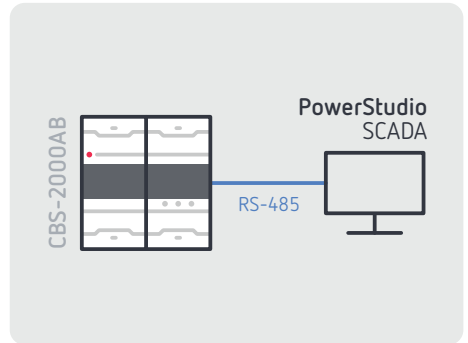
Example of adjustment



Total monitoring

Real-time display and monitoring of the leakage current

Monitors and tracks leakage currents in real time. Individually view the status of each of the 20 channels, monitoring the leakage level and visually identifying any alarm level programmed. It uses [RS-485 communications](#) to remotely manage the status of your installation and stay ahead of any problems.



Compatible with all types of loads

For proper leakage monitoring, it is important to consider the type of load you wish to monitor. Type-A protection is the most suitable for loads connected directly to AC. However, if the load requires converting AC to DC, such as for three-phase drives, UPS, inverters or charging points for electric vehicles, it could generate DC leakage that would only be detectable using Type-B differential relays.

The **CBS-2000AB** control unit has 16 independent Type-A channels and 4 Type-B channels, which lets you effectively monitor any type of leakage that may occur in the installation.



AC monitoring

Sinusoidal alternating current



Type-A monitoring

Sinusoidal alternating current
Pulsating alternating current

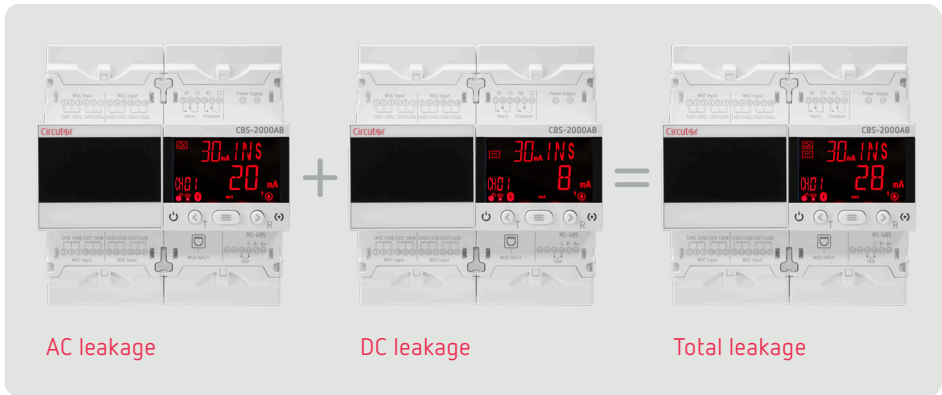


Type-B monitoring

Sinusoidal alternating current
Pulsating alternating current
Direct current

16 type-A channels

4 type-B channels



Leak broken down, all in one display

Its high-contrast display, together with its RS-485 communications (Modbus RTU), allows leakage to be monitored in real time.

The display changes to red when the alarm level is exceeded, saving the value of the current and, for a type B channel, breaking it down into its AC and DC components, making it easy to detect the problem and the source.



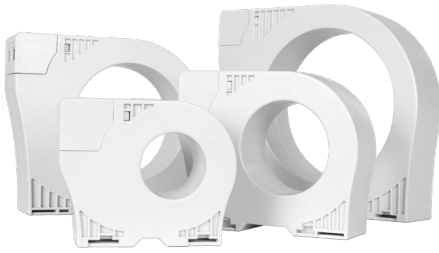
Real-time display and monitoring

Real-time leakage monitoring to keep track of the current in the installation. The display is backlit in red when the alarm level is exceeded, making it easier to identify the line containing the fault.

The operational mode of the device at any given moment is easily identifiable thanks to the backlighting on the new display.

Preventive maintenance

The **CBS-2000AB** provides a pre-alarm via the display and relay, meaning before the alarm level is reached, it allows preventive maintenance to be carried out, and it also offers an event log that can be analysed to aid in troubleshooting.




CBS-2000AB

Wide range of leakage currents

The **CBS-2000AB** can manage leaks in the main distribution panel, sub-panels or in the loads themselves. The connection with the type-A **WGC** transformers relies on a 2-wire system, while a **WGB** transformer can be quickly and conveniently connected using an RJ-45 connector.

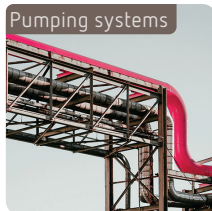
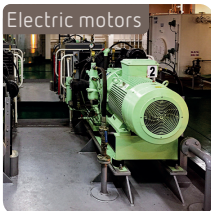
Where can I install the unit?

The unit can be installed in any setting where service reliability and continuity are required. It monitors those installations where, due to the type of load, the applicable law or a manufacturer's requirement, type-B monitoring is a must.

 Type-B installations



 Type-A installations



Technical specifications

Protection and monitoring	Type	A (Ultra-immunised), B
	Measurement channels	16 type-A, 4 type-B
	Sensitivity range $I_{\Delta n}$	30 ... 3000 mA
	Delay t_{Δ}	0.1-0.3-0.5-0.8-1-2-3-5 s
	Transformer type	External, WGC type, WGB type
	Remote signalling	Pre-alarm, alarm
Electrical characteristics	Auxiliary power	230 VAC
	Consumption	15 VA
	Installation category	Cat III 300V
2 Relay Outputs	Relay 1	Pre-alarm
	Relay 2	Alarm
	Maximum voltage	230 VAC
	Maximum current	6 A
	Maximum switching power	1500 VA
Digital input	Type	Potential-free contact
	Input impedance	2 k Ω
	Insulation	5.3 kV
Communications	RS-485	Modbus RTU
Mechanical Characteristics	Attachment	DIN 46277 rail (EN 50022)
	Dimensions	105 x 117.85 x 74 mm
	Protection rating	IP 30, IP 40 (Front) IK 08
	Enclosure	Self-extinguishing V0 plastic
Standards	IEC 62020-1	

References

Type	Code	$I_{\Delta n}$	Delay	Power Supply	Communications
CBS-2000AB	P12B02.	30 ... 3000 mA	0.1-0.3-0.5-0.8-1-2-3-5 s	230 VAC	RS-485 Modbus/RTU

Compatible transformers



WGC Type A



WGB Type B

Compatible transformers for type-A residual current protection:
WGC and **WGB** View codes at: www.circuitor.com

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