

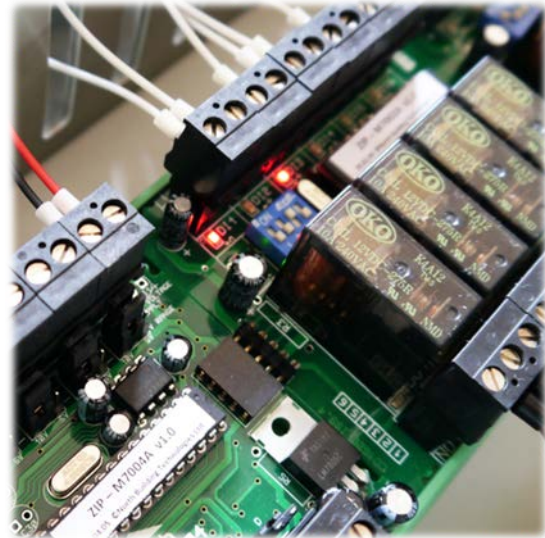


# What is Zip?

Control systems need connections to the real world – inputs to measure the environment and outputs to control equipment – Zip is North’s input-output system.

Zip is distributed – a Zip module connects to the real world, and communicates over a Zip network to a North controller.

Each Zip network connects up to 16 modules. North controllers can handle multiple Zip networks simultaneously, producing a truly scalable solution, whatever the requirements.



## A Range of Modules

Different Zip modules are available. Some provide general-purpose inputs for measuring, such as volt-free contacts, thermistors, and 0-10 volt analogues. Some provide general-purpose outputs, including relays, switched 12-volt digitals, and 0-10 volt analogues. These modules clip together to fit on DIN rail, thereby simplifying control panel layout and construction.

Some Zip modules perform particular functions, such as displaying information or controlling a door. These solve common problems quickly, and fit in the smallest of spaces.

## Dedicated Network

The Zip network is the link between the modules and the controller. It can span one kilometre – so is more than capable of handling a small building or an area in a larger one. Hundreds of messages pass over the network every second, making the whole system extremely responsive.

In addition, because the controller is a North device, the engineer can employ North’s interface technology to link the Zip system to other external systems, including BACnet and Modbus.

# General-purpose Modules

Zip's general-purpose modules make panel design and construction simple, and give the engineer most control over the inputs and outputs.

General-purpose modules clip together to form a single DIN-rail mounting block with the right amount of input and output for a control panel – and they save panel wiring by sharing the network and power connections of a Zip NetCard.

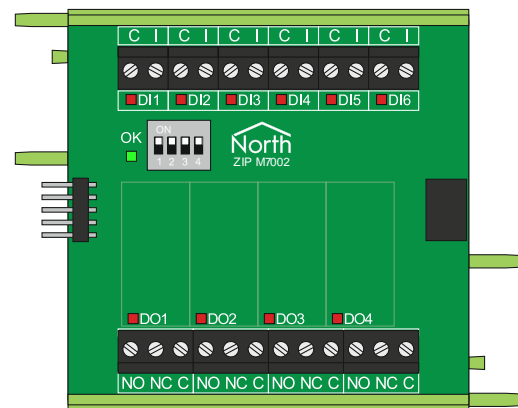
## Digital

The M7002 is a general-purpose module with six digital inputs and four changeover relay outputs.

Each input works with a volt-free contact – sensing its state and counting the closures.

Each output is capable of switching 250-volt 8-amp loads – allowing Zip to drive most equipment directly, and therefore saving the cost of additional external relays.

On-board LEDs are standard, to simplify commissioning and fault diagnosis.

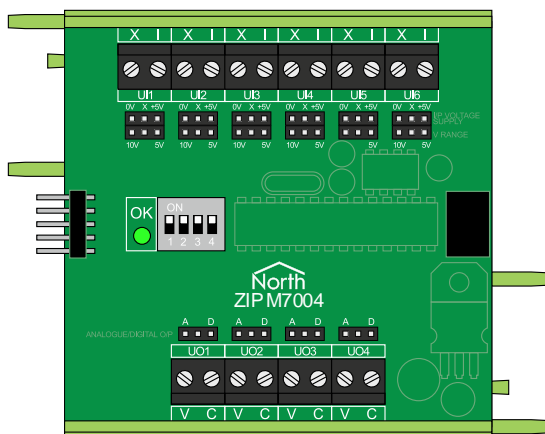


---

*Each NetCard can support 4 general-purpose modules – which means approximately 40 I/O along a 360mm length of DIN-rail*

---

## Analogue



The M7004 is another general-purpose Zip module, with six universal inputs and four universal outputs.

Each input can handle digital, 0-10 volt, 0-20 milliamp, thermistor, or even a monitored input – which senses cable shorts and cuts as well as the state of a contact.

Each output can give a 0-10 volt analogue signal – to drive a valve position or dimmable lighting – or a switched 12-volt output – with enough power to drive a local lamp, buzzer, or relay.

---

*Each network links up to 16 modules – which is approximately 160 inputs and outputs*

---

## Fixed-function Modules

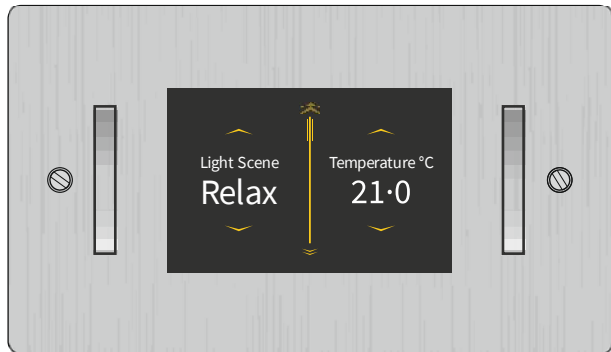
Common problems can be solved easily with Zip's fixed-function modules – these perform straight from the box, and require no cause-and-effect engineering.

### Simple Displays

Although web browsers and PCs satisfy more powerful display requirements, the Zip M7204A Smart Switch allows the user to make simple adjustments

The Smart Switch is easy to set up – the engineer chooses up to 20 values to show.

The Smart Switch is even easier to use – no need for training or manuals.



The colour palette is selectable, and a range of clip-on faceplates is available.

The Smart Switch has thermistor inputs and two 12VDC outputs, all of which can be accessed remotely. The Smart Switch can act as a 'stand-alone' heating controller.

Several Smart Switches can sit on one Zip network – and each one can show the same information, or can show information unique to its particular location.

---

*Smart Switch is designed to control a room of a home, allowing the user to view and adjust several values quickly and easily*

---

### Controlling Doors

Although door contacts and locks could be controlled using general-purpose inputs and outputs, performing user-authentication and door-position monitoring requires a smarter solution.

The M7101 Zip module connects directly to a Wiegand-compatible card reader, allowing users to present swipe cards, proximity cards, or even PIN numbers as identification. The M7101 works with an identification database, within a North device, to decide whether to allow access.

Other security functions include automatic opening of the door during emergencies, detecting forced entries, and monitoring for tampering.

---

*Controlling access to a server room or remote building is now part of the monitoring system*

---

# Communications

The Zip network is the link between the controller and the modules. Its structure is simple – a kilometre-long bus based on RS485, a standard in use for many years.

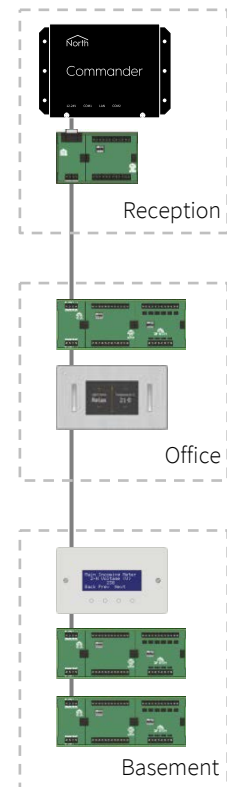
To improve reliability even more, each Zip module is optically isolated from the network, which simplifies electrical installation and protects local equipment against lightning.

The Zip network guarantees response speed – as it is not a shared network – and data compression makes it even faster. The result is a network that handles hundreds of messages every second.

The controller at the heart of the Zip network monitors the reliability of its connection to each module, and responds appropriately if a fault occurs – alarm messages can inform engineers, and cause-and-effect can drive other modules and systems to compensate.

## Controller Choice

All North devices can control Zip, enabling the engineer to choose the most appropriate controller – the small-footprint Commander, Integrator and its broad integration options, or ObSys with its data processing and powerful user-display applications.



## Next Steps...

The *Zip Tutorial* is available on [www.northbt.com](http://www.northbt.com)

A cost-effective Zip Training Pack is also available for use with the tutorial, and is useful for demonstrations.

Hands-on training courses run regularly, covering Commander, ObSys and Zip.



North Building Technologies Ltd  
+44 (0) 1273 694422  
[support@northbt.com](mailto:support@northbt.com)  
[www.northbt.com](http://www.northbt.com)

This document is subject to change without notice and does not represent any commitment by North Building Technologies Ltd.

ObSys, Commander and Zip are trademarks of North Building Technologies Ltd.

© Copyright 2022 North Building Technologies Limited.

Author: TM  
Checked by: JF

Document issued 22/09/2022.