HighPROTEC

Protection & Control Relays for Your Power Systems
In the evolution of system protection, ranging from the first generation of electromechanical relays to the second generation - the static one - up to the point of the third generation - the digital version - Woodward’s contribution to a reliable electrical power supply is highly significant. Woodward has now launched the fourth generation of power protection facilities by the new HighPROTEC Series in Dual-Core Processor Technique.

HighPROTEC - Woodward’s latest relay line
When developing the HighPROTEC Line we reacted to our customers’ requirements and wishes. In this process our nearly 40 years of experience and the advantages of our existing product lines have been successfully combined. Flexibility, precision, reliability and uncomplicated handling of the relays are the hallmark of this product.

All inclusive - fully equipped - competitively priced!
As standard, the devices are fully equipped with all functions required by the corresponding application. For example, the Feeder Protection Relay MRA4 provides functions like Auto Reclosing, Vector Surge, d/dt (ROCOF) and six Frequency Protection Stages on-board, without extra charge! This results in a small type code and you do not have to deal with many variants. All current- and ground current inputs are designed for 1A and 5A. All terminals are removable and the current connectors are equipped with automatic short circuiters. The nominal voltage of the voltage inputs and the switching thresholds of the digital inputs can be adjusted via software. The wide-range power supply unit covers all standard aux. voltages, both for ac and dc. The integrated, non-volatile disturbance recorder records up to 120 seconds with 32 samples per cycle.
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HighPROTEC - Protection Technologie made simple!

- Simplified planning
  During the planning stage you don't have to decide on the rated quantities.
- Short delivery times
  Due to the modular design we are able to react far quicker to our customers enquiries.
- Stock-keeping made less extensive
  The wide functional range makes it possible for you to have less different relay types to store.
- We made it much easier for your technical engineers
  Because the easy operating concept applies for all relay types and also for the parameter setting software "Smart view SE", which is free.

Our Service

You will be entirely familiar with the HighPROTEC devices virtually in no time - we are absolutely sure of this. But do not want you to have the feeling it is only technique you are going to buy, you can be sure that you will be well looked after by Woodward. For this purpose a competent team is available for you and will assist you with advice during sales talks or later when you need the after sales service.

Certified Quality

All our electronic devices are developed and tested in compliance with the relevant international Standards and Regulations, as for instance, IEC60255. Production of our products is subject to strict quality regulations. This is proven by the certification acc. to EN ISO9001:2000.

Smart view

Operating, configuring, evaluating - made easy tasks
- Menu-controlled parameter setting and - validity checks
- Offline configuration of all relay types
- Reading and evaluating of statistical data and measuring values
- Setting into operation assistance
- Display of the device status
- Fault analysis via event- and fault recorder
- Smart view dates up automatically, when a new or unknown device is recognized, regardless if an older or newer device is connected.

Data Visualizer

Let your measuring values become transparent
- Evaluation and curve diagram of fault recording files
- Display of digital and analogue tracks with 32 samples per cycle
- Instantaneous value analysis of individual measuring values
- Import and export of fault recording files in ASCII- and COMTRADE-format.
### Power Protection from A to Z - Overview of the HighPROTEC relay line

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRA4/MCA4</td>
<td>Feeder protection</td>
</tr>
<tr>
<td>MRI4/MCI4</td>
<td>Current protection</td>
</tr>
<tr>
<td>MRU4</td>
<td>Voltage and frequency protection</td>
</tr>
<tr>
<td>MRM4/MCM4</td>
<td>Motor protection</td>
</tr>
<tr>
<td>MCDM4</td>
<td>Motor differential protection</td>
</tr>
<tr>
<td>MRG4</td>
<td>Generator protection</td>
</tr>
<tr>
<td>MCDG4</td>
<td>Generator differential protection</td>
</tr>
<tr>
<td>MCDL4</td>
<td>Line differential protection</td>
</tr>
<tr>
<td>MRDT4/MCDT4</td>
<td>Transformer differential protection</td>
</tr>
<tr>
<td>MCD84</td>
<td>Bus bar differential protection</td>
</tr>
<tr>
<td>MCZ4</td>
<td>Distance protection</td>
</tr>
</tbody>
</table>

*MR = Protection  
MC = Protection and Control*

### HighPROTEC - Protection Technology made simple!

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