

## Company Directive

### Engineering Specification: 98/11

#### Approved Protection, Voltage Control and Alarm Relays and Test Access Blocks

##### Summary

This document provides a list of protection relays, alarm relays, voltage control relays and test access blocks that are approved for use within Western Power Distribution's network.

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**Implementation Date:** June 2022

**Approved by**



**Carl Ketley-Lowe**  
**Engineering Policy Manager**

**Date:** 20<sup>th</sup> June 2022

|                          |   |
|--------------------------|---|
| Target Staff Group       | Staff, contractors and Independent Connection Providers (ICPs) involved with the specification, design, installation and/or replacement of protection, alarm and voltage control schemes within Western Power Distribution's network. |
| Impact of Change         | Amber – this document changes the protection, alarm and control relays that may be used within WPD's network  |
| Planned Assurance checks | 12 months from the issue of the document the author will check CROWN records to confirm that newly installed relays comply with the relevant requirements.  |

*All references to Western Power Distribution or WPD must be read as National Grid Electricity Distribution or NGED*

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## IMPLEMENTATION PLAN

### Introduction

This document provides a list of protection relays, alarm relays, voltage control relays and test access blocks that are approved for use within Western Power Distribution's network.

### Main Changes

Changes have been made to the list of approved relays, a detailed list of changes is included in the revision table.

The format of the document has also been amended, with the schedules moved into a Microsoft Excel workbook.

### Impact of Changes

New relays shall comply with this document.

|                           |  |
|---------------------------|--|
| <b>Target Staff Group</b> | <b>Staff, contractors and Independent Connection Providers (ICPs) involved with the specification, design, installation and/or replacement of protection, alarm and voltage control schemes within Western Power Distribution's network.</b> |
| <b>Impact of Change</b>   | <b>Amber – this document changes the protection, alarm and control relays that may be used within WPD's network</b>  |

### Implementation Actions

Managers responsible for the design, installation and operation of protection relays shall ensure that all relevant staff are briefed on and comply with the requirements of this document. As the change is an update to equipment listings only, no additional briefing content has been produced. Managers shall brief out by sharing the new lists, and changes in the revision table, with their teams.

### Implementation Timetable

This document shall be implemented on issue for new and substantially modified protection, alarm and voltage control relays, and test access blocks. Plant and equipment ordered before this document was issued may utilise relays listed in the previous version of EE:98 as long as this plant and equipment is put into commission within 2 years of being ordered.

In all other situations, device models/variants that are not listed in EE:98/11 but were included in earlier issues of the document, may only be used for like-for-like relay replacements (i.e. to replace failed relays).

## REVISION HISTORY

| DOCUMENT REVISION & REVIEW TABLE |   |               |
|----------------------------------|---|---------------|
| Date                             | Comments  | Author        |
| June 2022                        | <ul style="list-style-type: none"> <li>• Format amended, with the schedules moved into a Microsoft Excel workbook.</li> <li>• Function codes made consistent between schedules 1 and 2 with minor corrections to device approved functions.</li> <li>• GE P14D, P14N and P94V software updated to version 62</li> <li>• Various relays removed due to obsolescence:               <ul style="list-style-type: none"> <li>○ Fundamentals SuperTAPP n+ and RTMU</li> <li>○ Hawker Siddeley Switchgear Panacea</li> <li>○ Siemens 7PG27 (DDB)</li> <li>○ GE Grid Solutions MBCI 02</li> <li>○ Schneider ADVC2</li> </ul> </li> <li>• GE Grid Solutions MVAW11 and MVAW21 removed: auxiliary relays are now specified in EE136 (as amended).</li> <li>• Schneider P123 for 30Vd.c. supplies removed as no remaining applications are known.</li> <li>• Restrictions on 3BBOC, REF and BEF relays amended to reflect scheme-dependent specification of stabilizing resistors and Metrosils.</li> <li>• Variant codes and restrictions added to approval of GE Grid Solutions DIP5000</li> <li>• New restrictions on application of NVD relays using measurements from capacitive cones or bushings</li> <li>• Variant code corrected for Schneider P142</li> </ul> | Stephen Quinn |
| April 2021                       | <ul style="list-style-type: none"> <li>• Auto-reclose functions clarified</li> <li>• GE P142 software version 46 is now specified</li> <li>• Agile P14DZ2 has been reinstated for use with Schneider Genie Evo switchgear</li> <li>• GE P14NB2 full model number has been corrected</li> <li>• GE P543, P544, P545 software version 47 has been removed as this is no longer available</li> <li>• GE P546 full model number has been corrected and software version 61 has been removed as this is no longer available</li> <li>• Schneider ADVC3 has been added</li> <li>• Schneider VIP300 has been removed</li> <li>• Siemens FR Series relays have been removed as they are no longer available</li> <li>• Siemens 7SR11 and 7SR12 software references have been updated.</li> </ul>  | Andy Hood     |

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## 1.0 FOREWORD

This document lists protection, alarm and voltage control relays and test access blocks that are approved for use on Western Power Distribution's (WPD's) network.

Alternative devices may be submitted to WPD's Policy Section for evaluation in accordance with POL:TP25 (as amended).

Where an alternative application is proposed for an approved device that is not covered by the approved functions, the author shall be consulted.

## 2.0 SCHEDULES

The schedules are provided as sheets in a Microsoft Excel workbook, *EE98\_11\_schedules.xlsx*. It can be found at:

- Internal users: [EE98\\_11\\_schedule](#)
- External users: <https://www.westernpower.co.uk/downloads/591598>

### 2.1 SCHEDULE 1: APPROVED DEVICES

Schedule 1 is a table of all protection, voltage control and alarm relays and test access blocks approved by WPD. The following fields are included:

| Field                            | Notes   |
|----------------------------------|---|
| <i>Technology</i>                | The technology of the device (Numeric, Electronic or Electromechanical), where applicable.  |
| <i>Manufacturer</i>              |   |
| <i>Model</i>                     | The model or model range of the device.   |
| <i>Variant</i>                   | The variant within the model range, where required.   |
| <i>Hardware version</i>          | The hardware version or revision, where applicable. <i>Note that this may be implicit in the model or variant for some devices.</i>   |
| <i>Software/firmware version</i> | The software and/or firmware version or revision, where applicable. <i>Note that this may be implicit in the model or variant for some devices.</i>   |
| <i>Functions</i>                 | A comma delimited list of function codes (as defined in schedule 2) for which the relay may be used. <i>Note that some relays may not be capable of fulfilling all approved functions simultaneously.</i> |

| <b>Field</b>                    | <b>Notes</b>  |
|---------------------------------|---|
| <i>Auxiliary supply voltage</i> | The nominal supply voltages for which the relay is approved, where specifically restricted. Where not specified, the manufacturer's documentation should be consulted. Where a relay is required for an auxiliary supply voltage other than that specified, the author shall be consulted.                      |
| <i>Restrictions</i>             | Restrictions that must be followed when supplying and using the device.   |
| <i>Further comments</i>         | Other useful information including applications guidance and functional descriptions to distinguish between similar devices.  |
| <i>Assessment type</i>          | The type of formal assessment undertaken, where applicable: <ul style="list-style-type: none"> <li>• ENA assessment is undertaken by the Protection Assessment Panel (PAP) in accordance with ER G79 (as amended);</li> <li>• WPD assessment is undertaken in accordance with POL:TP25 (as amended).</li> </ul> |
| <i>Assessment reference</i>     | A reference to the notice or documentation of the formal assessment, where applicable.  |
| <i>First approved issue</i>     | The issue of this directive at which the device was added to schedule 1.  |

In addition to the approved functions listed in *Functions*, a relay may also be used for the function **AI** (alarm indication) where all of the following conditions are met:

1. The *Technology* is "Numeric";
2. The indicated condition relates to the same circuit or equipment that is protected and/or controlled by the numeric relay;
3. Sufficient binary inputs are available; and
4. Sufficient programmable LEDs of a colour suitable to the indicated condition are available. LED colours shall conform to ENA TS 50-18 (as amended) requirements for lamp colour where reasonably practicable.

## 2.2 Schedule 2: Function Key

Schedule 2 provides a key to the device function codes used in schedule 1.

## **APPENDIX A**

### **SUPERSEDED DOCUMENTATION**

This document supersedes EE:98/10 dated April 2021 which has now been withdrawn.

## **APPENDIX B**

### **RECORD OF COMMENT DURING CONSULTATION**

[EE:98/11 - Comments](#)

## **APPENDIX C**

### **ANCILLARY DOCUMENTATION**

POL:TP25 (as amended): The Approval of Protection, Voltage Control and Alarm Relays

## **APPENDIX D**

### **KEY WORDS**

Approval, Approved Relays, Relay, Alarm, Protection, Voltage Control, Test Access Block.