

# Main Protection

## Directional Overcurrent Protection - Argus 7SR12

Product description	Variants	Order No.																																																						
<b>Directional O/C Relay (Argus)</b>																																																								
Directional overcurrent and earth fault protection relay	<u>Protection Product</u> Overcurrent – Directional	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;">3</td><td style="padding: 0 5px;">4</td><td style="padding: 0 5px;">5</td><td style="padding: 0 5px;">6</td><td style="padding: 0 5px;">7</td><td style="padding: 0 5px;">8</td><td style="padding: 0 5px;">9</td><td style="padding: 0 5px;">10</td><td style="padding: 0 5px;">11</td><td style="padding: 0 5px;">12</td><td style="padding: 0 5px;">13</td><td style="padding: 0 5px;">14</td><td style="padding: 0 5px;">15</td><td style="padding: 0 5px;">16</td> </tr> <tr> <td style="padding: 0 5px;">7</td><td style="padding: 0 5px;">S</td><td style="padding: 0 5px;">R</td><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;">0</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">-</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">A</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">-</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">□</td><td style="padding: 0 5px;">A</td><td style="padding: 0 5px;">0</td> </tr> </table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	7	S	R	1	2	0	□	-	□	□	A	□	□	-	□	□	A	0																				
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7	S	R	1	2	0	□	-	□	□	A	□	□	-	□	□	A	0																																							
	<u>Housing I/O and Fascia</u> 1 CT, 3VT, 3 Binary Inputs / 5 Binary Outputs, 10 LEDs 4 CT, 3VT, 3 Binary Inputs / 5 Binary Outputs, 10 LEDs 4 CT, 3VT, 6 Binary Inputs / 8 Binary Outputs, 10 LEDs 4 CT, 3VT, 4 Binary Inputs / 8 Binary Outputs, 10 LEDs <sup>8)</sup>	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td><td style="padding: 0 5px;">↑</td></tr> <tr><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;">4</td><td style="padding: 0 5px;">5</td><td style="padding: 0 5px;">6</td><td style="padding: 0 5px;">8</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;">C</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	2				4	5	6	8			1				C																					
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	<u>Measuring Input</u> 1/5 A, 50/60Hz <sup>1)</sup> 1/5 A, 50/60Hz with SEF Input <sup>2)</sup>	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;">4</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	2	4																																																				
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	<u>Auxiliary voltage</u> DC 80 to 250 V, AC 115 V <sup>5)</sup> , binary input threshold DC 19V DC 80 to 250 V, binary input threshold DC 88V DC 24 to 60 V, binary input threshold DC 19V	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">G</td><td style="padding: 0 5px;">H</td><td style="padding: 0 5px;">J</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	G	H	J																																																			
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	<u>Communication Interface</u> Standard version – included in all models, USB front port, RS485 rear port (E4 Case) Standard version – plus additional rear electrical Ethernet RJ45 (x2), E6 Case <sup>6)</sup> Standard version – plus additional rear optical Ethernet duplex (x2), E6 Case <sup>6)</sup>	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> <tr><td style="padding: 0 5px;">7</td><td style="padding: 0 5px;">7</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> <tr><td style="padding: 0 5px;">8</td><td style="padding: 0 5px;">7</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	1	2																	7	7																	8	7																
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	<u>Protocol</u> IEC 60870-5-103, Modbus RTU and DNP3 (user selectable) IEC 60870-5-103 Modbus RTU, DNP3 and IEC 61850 (user selectable settings) <sup>6)</sup>	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;">7</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	2	7																																																				
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	<u>Relay Cover</u> Standard Version – No Push Buttons Push Buttons – Down and Right Arrows	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	1	2																																																				
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	<u>Protection Function Packages</u> Standard version – Included in all models	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">C</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	C																																																					
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	27/59 Under/overvoltage 32 <sup>3)</sup> Power 32S <sup>7)</sup> Sensitive Power 37 Undercurrent 46BC <sup>3)</sup> Broken conductor/load unbalance 46NPS <sup>3)</sup> Negative phase sequence overcurrent 47 Negative phase sequence voltage 49 <sup>3)</sup> Thermal overload 50AFD Arc Flash Detection 50BF <sup>3)</sup> Circuit breaker fail 51V <sup>3)</sup> Voltage controlled overcurrent 55 <sup>3)</sup> Power Factor 59N Neutral voltage displacement	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	1	2																																																				
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	60CTS <sup>3)</sup> CT supervision 60VTS <sup>3)</sup> VT supervision 64H High Impedance REF 67/50 Directional instantaneous phase fault overcurrent 67/50G 67/50N Directional instantaneous earth fault 67/50SEF <sup>2)</sup> Instantaneous sensitive earth fault 67/51 Directional time delayed phase fault overcurrent 67/51G 67/51N Directional time delayed earth fault 67/51/SEF <sup>2)</sup> Time delayed sensitive earth fault 81HBL2 <sup>4)</sup> 2nd harmonic block/inrush restraint 74T/CC Trip & Close circuit supervision 51C <sup>3)</sup> Cold load pickup 81U/0 Under/Over Frequency 86 Hand reset contacts Programmable logic	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">2</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	1	2																																																				
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	Standard version – plus 79 Autoreclose	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">D</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	D																																																					
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	<u>Additional Functionality</u> No Additional Functionality	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">A</td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td><td style="padding: 0 5px;"></td></tr> </table>	A																																																					
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1) 4CT is configured as 3PF + EF	60CTS <sup>3)</sup> CT supervision																																																							
2) 4CT is configured as 3PF + SEF/REF (user selectable setting)	60VTS <sup>3)</sup> VT supervision																																																							
3) Functions only available in 4CT relay	64H High Impedance REF																																																							
4) Not available on single-pole SEF variant	67/50 Directional instantaneous phase fault overcurrent																																																							
5) 115V AC supported by devices with hardware version CC or later	67/50G 67/50N Directional instantaneous earth fault																																																							
6) E4 case is standard, E6 case is required if IEC61850 option fitted	67/50SEF <sup>2)</sup> Instantaneous sensitive earth fault																																																							
7) 4 Binary Input variant provides segregated Binary Outputs without a common terminal	67/51 Directional time delayed phase fault overcurrent																																																							
8) Functions only available in 4CT SEF relay	67/51G 67/51N Directional time delayed earth fault																																																							