Product description Variants Order No. Numerical line differential protection for two-line ends - allows transformers in the protection zone Current transformers Iph = 1 A 1). Ie = 1 A 1) Iph =  $5 A^{1}$ , Ie =  $5 A^{1}$ 5 Auxiliary voltage (Power supply, BI operating voltage) DC 24 V to 48 V, trigger level binary input 19 V 3) DC 60 V to 125 V  $^{2)},$  trigger level binary input 19 V  $^{3)}$ 4 DC 110 V to 250 V 2), AC 115 V to 230 V, trigger level binary input 88 V 3) DC 110 V to 250 V 2). AC 115 V to 230 V. trigger level binary input 176 V 3) Housing, number of binary inputs/outputs Flush-mounting housing with screw term., В 1/3 19", 7 BI, 5 BO, 1 Life contact Surface-mounting housing with screw term., 1/3 19", 7 BI, 5 BO, 1 Life contact Flush-mounting housing with plug-in term., 1/3 19", 7 BI, 5 BO , 1 Life contact Region-specific default settings/ function versions and language settings Region DE, German language (language changeable) Α В Region World, English language (language changeable) Region US, US-English language (language changeable) С Region world, French language (language changeable) D Region world, Spanish language (language changeable) Ε F Region world, Italian language (language changeable) System interfaces, functions and hardware Without system interface IEC 60870-5-103 Protocol, electric RS232 1 IEC 60870-5-103 Protocol, electrical RS485 2 IEC 60870-5-103 Protocol, optical 820 nm, ST-connector 3 Further protocols see supplement L 0 PROFIBUS DP slave, RS485 Α PROFIBUS DP slave, optical 820 nm, double ring, ST-connector 4) В D Modbus, RS485 Modbus, optical 820 nm, ST-connector 4) Е DNP3.0, RS485 G DNP3.0, optical 820 nm, ST-connector 4) Н IEC 61850, 100 Mbit Ethernet electrical, double, RS45 connector (EN 100) R IEC 61850, 100 Mbit Ethernet, with integrated switch S optical, double, LC-connector 5) (continued on next page)

BI = Binary input. BO = Binary output.

- 1) Rated current 1/5 A can be selected by means of jumpers.
- 2) Transition between the two auxiliary voltage ranges can be selected by means of jumpers.
- 3) Setting of the BI thresholds can be made for each binary input via jumpers in 3 steps.
- 4) Not possible for Surface-mounting housing (MLFB pos. 9 = F). For the surface mounted version, please order a device with the appropriate electrical RS485 interface and an external FO-converter.
- 5) Not possible for Surface-mounting housing (MLFB pos. 9 = F) please order the relay with electrical interface and use a separate fiber-optic switch.

## Line Differential Protection SIPROTEC 7SD61

Variants Order No. Product description Numerical line differential protection (continued from previous page) DIGSI/Modem interface (on rear of device) and protection interface 1 9  $\dot{\mathbf{M}}$ DIGSI/Modem interface (on rear of device) DIGSI 4. electrical RS232 DIGSI 4, electrical RS485 2 Protection interface 1 FO5: Optical 820 nm, 2 ST-connectors, line length up to 1,5 km via multimode FO cable for communication converter or direct FO connection 1) FO6: Optical 820 nm, 2 ST-connectors, line length up to 3,5 km via multimode FO cable for direct FO connection FO17: Optical 1300 nm, LC-Duplex-plugs, line length up to 24 km 2) via monomode FO cable for direct FO connection 2) FO18: Optical 1300 nm, LC-Duplex-plugs, line length up to 60 km via monomode FO cable for direct FO connection 2)3) FO19: Optical 1550 nm, LC-Duplex-plugs, line length up to 100 km via monomode FO cable for direct FO connection 2)4) FO30: Optical 820 nm, 2 ST-connectors, line length up to 1,5 km via multimode FO cable for communication networks with IEEE C37.94 interface or direct FO connection 5) Functions 1 Trip mode 3-pole only without auto reclosure 0 Trip mode 3-pole only with auto reclosure 1 Trip mode 1- and 3-pole without auto reclosure 2 3 Trip mode 1- and 3-pole with auto reclosure Back-up functions with emergency or back-up overcurrent protection В С with emergency or back-up overcurrent and breaker failure protection with directional - emergency or back-up overcurrent protection R with directional - emergency or back-up overcurrent and breaker failure protection Additional functions 1 4 Remote commands/ Voltage-/frequence Restricted earth fault Transformer 24 Remote indications expansions protection (low Impedance) В Ε F J K N П S Т 

- Communication converter 7XV5662, see accessories.
- 2) Device for Surface-mounting housing (OrderNo. pos. 9 = F) will be delivered with external repeater 7XV5461-0Bx00.
- 3) For distances less than 25km a set of optical attenuators 7XV5107-0AA00 must be installed to avoid saturation of the receiver element.

without external GPS synchronisation of differential protection with external GPS synchronisation of differential protection

- 4) For distances less than 50km a set of optical attenuators 7XV5107-0AA00 must be installed to avoid saturation of the receiver element.
- 5) Only available in flush-mounting housing (OrderNo. pos. 9 = B, K).