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RELAY SELECTION GUIDE- LINE DIFFERENTIAL PROTECTION



SYSTEM CONTROLS & SWITCHGEARS



Online Solutions for Electrical Needs



Overview

System controls & switchgears is one of the fastest growing companies in India. Established in 1983, a privately owned company has unrivalled experience in the distribution of electrical products. SCS business covers a broad range of Medium Voltage Switchgears, Low Voltage Switchgears, Power Capacitors, Internal wiring accessories, Lighting, Metal Detectors, Energy Management Products and other products. Over the last 3 decades history, we've developed strong relationships with customers. Our strength lives in all of our people, who have extended our tradition of service and integrity to customers in every location and situation, and who take pride in making us one of the most resilient resources in the products we deal.

Models :-Multi-ended Line Differential Protection Systems

➤ P54A- Multi-ended Line Differential Protection Systems

P54A compact (40TE), economical line differential protection without VT inputs, offering non-directional backup protection.

(ANSI Code-87P/87N,50/27,50/51/67,50N/51N/67N,51N/67N/SEF,64,67/46,46BC,49,50BF,)



➤ P54B-Multi-ended Line Differential Protection Systems

P54B compact (40TE), economical line differential protection with directionalised back-up protection and inbuilt reclosing and check synchronism.

(ANSI Code-P54A + 27,59,59N,81U,81O,81R,79,25)



➤ P54C-Multi-ended Line Differential Protection Systems

P54C transmission-class 1/3-pole tripping line differential protection with backup protection and inbuilt reclosing and check synchronism.

(ANSI Code-P54B + Extra DI/DO)



➤ P54E-Multi-ended Line Differential Protection Systems

P54E transmission-class 1/3-pole tripping line differential protection with back-up protection and inbuilt reclosing and check synchronism with a large number of binary I/O for traditional hardwired schemes.

(ANSI Code-P54C + Extra DI/DO)

Models :- Line Differential Protection Systems



- **P541** Line-Differential Protection IED, in 40TE case
(ANSI Code-87, 50/51, 49, BC, 50BF, TCS)

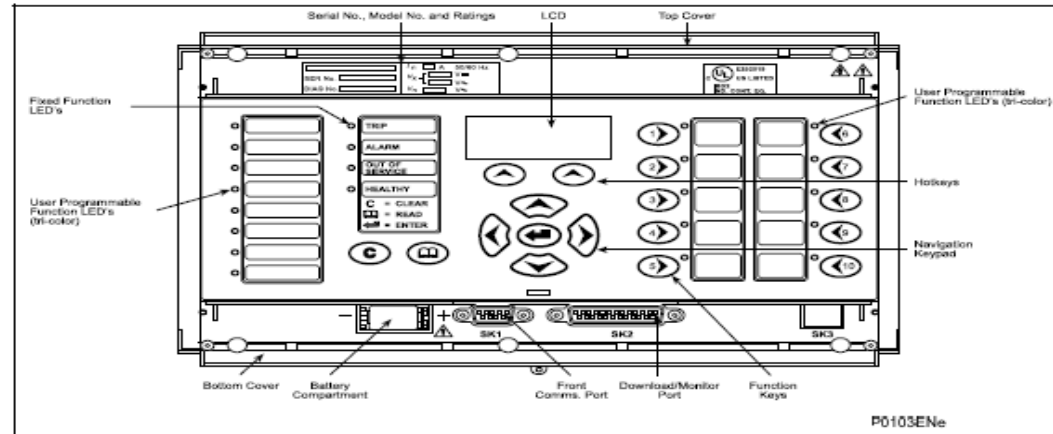
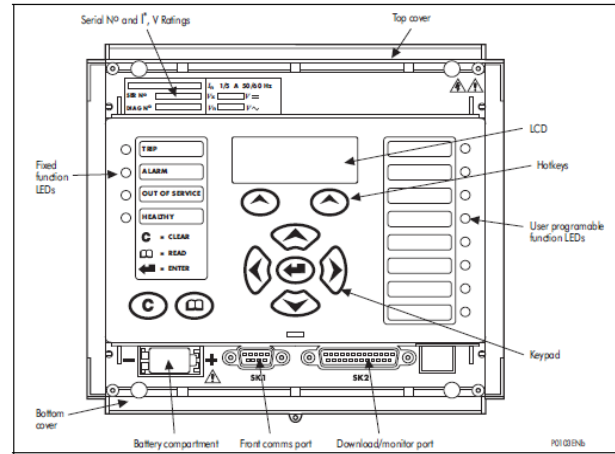


- **P542** Line-Differential Protection IED with Autoreclose, in 60TE case
(ANSI Code-P541 + 79)



- **P543** Line-Differential with Optional Subcycle Distance IED, in 60TE case
(ANSI Code-87, 21, 85, 50/27, 68, 78, 50/51, 50N/51N, 67, 67N, SEF, 64, 67/46, 46BC, 49, 27, 59, 59N, 81U/O/R, 50BF, 79, 25, 21FL)

- **P545**- Line-Differential with Optional Subcycle Distance IED, in 80TE case (Up to 6 Terminals)
(ANSI Code- (ANSI Code-87, 21, 85, 50/27, 68, 78, 50/51, 50N/51N, 67, 67N, SEF, 64, 67/46, 46BC, 49, 27, 59, 59N, 81U/O/R, 50BF, 79, 25, 21FL)

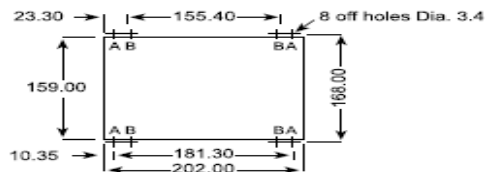


Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
A	Agile P54A	Modbus/ IEC103/ DNP 3/ IEC 61850	8	8	4	0	87P/87N,50/27,50/51/67,50N/51N/67N,51N/67N/SEF, 64,67/46,46BC,49,50BF,

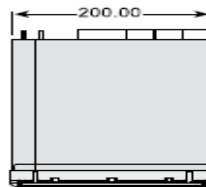
P54A case dimensions (40TE case)

Dimensions in mm (w x h x l) (40TE case)-W: 206.0 mm H: 177.0 mm D: 243.1 mm

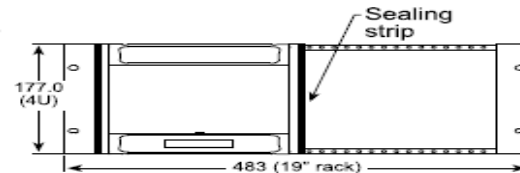
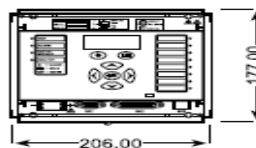
Weight
P54A (40TE): 7 kg – 8 kg (depending on chosen options)



A = Clearance holes
B = Mounting holes



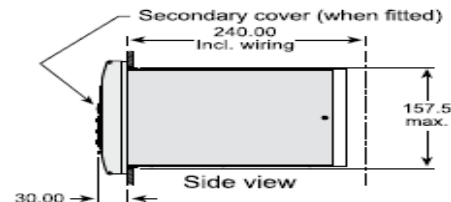
Front view



Flush mounting panel
Panel cut-out detail

Note: If mounting plate is required
use flush mounting cut out
dimensions

All dimensions in mm

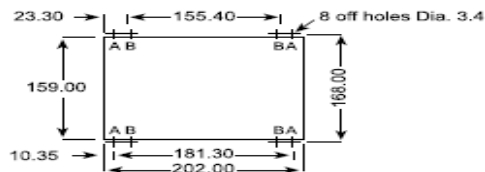


Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
B	Agile P54B	Modbus/ IEC103/ DNP 3/ IEC 61850	8	8	5	4	P54A + 27,59,59N,81U,81O,81R,79,25

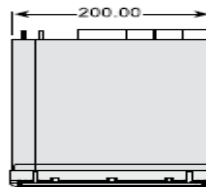
P54B case dimensions (40TE case)

Dimensions in mm (w x h x l) (40TE case)-W: 206.0 mm H: 177.0 mm D: 243.1 mm

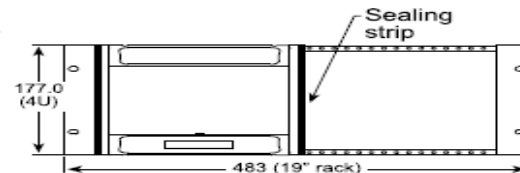
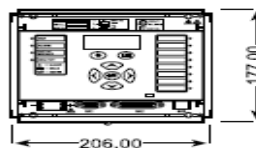
Weight
P54B (40TE): 7 kg – 8 kg (depending on chosen options)



A = Clearance holes
B = Mounting holes



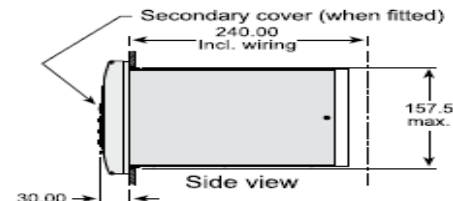
Front view




Flush mounting panel
Panel cut-out detail

Note: If mounting plate is required
use flush mounting cut out
dimensions

All dimensions in mm

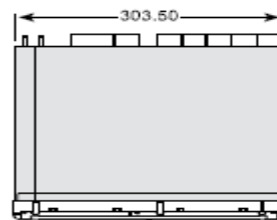
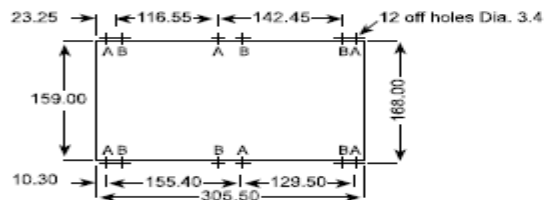


Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
C	 Agile P54C	Modbus/ IEC103/ DNP 3/ IEC 61850	16	16	5	4	P54B + Extra DI/DO

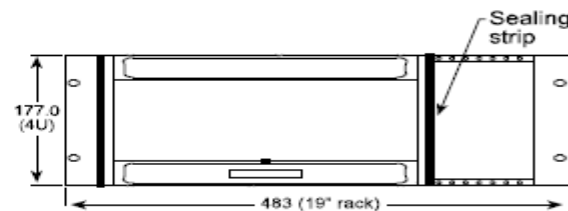
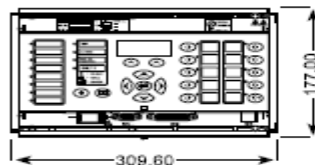
P54C case dimensions (60TE case)

Dimensions in mm (w x h x l) (60TE case)-
W: 309.6 mm H: 177.0 mm D: 243.1 mm

Weight
P54C (60TE): 9 kg – 12 kg (depending on
chosen options)

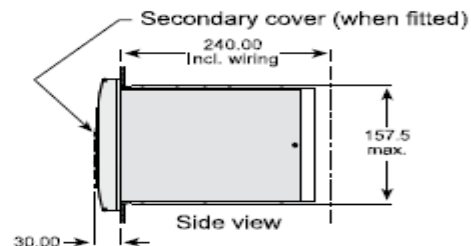



Front view



A = Clearance holes
B = Mounting holes

All dimensions in mm

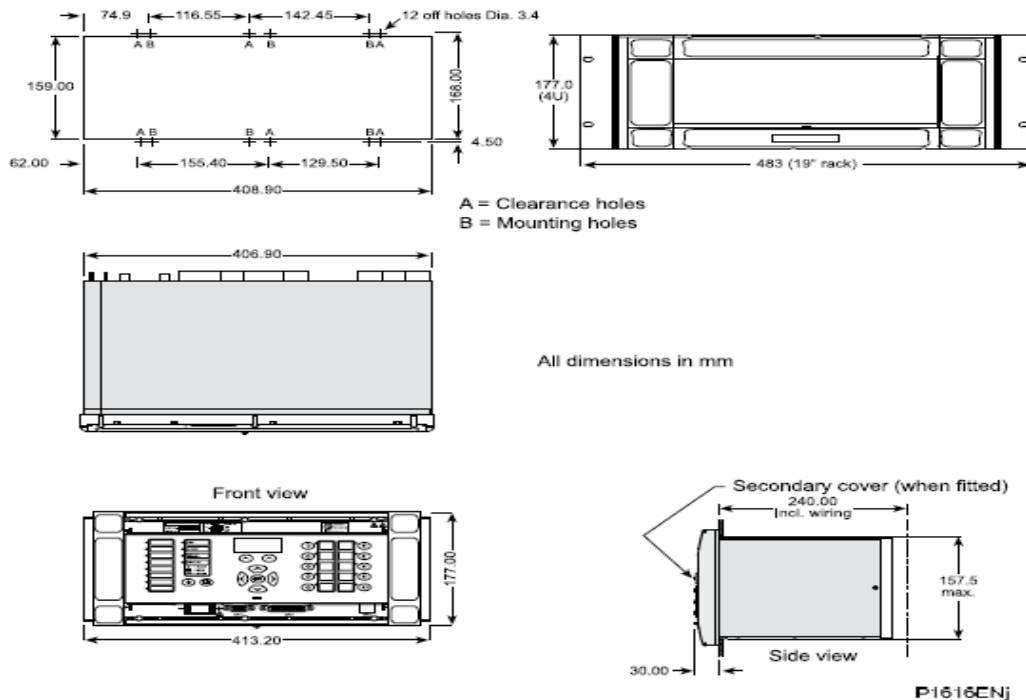


Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max	CT INPUTS	VT INPUTS	ANSI Code
D	 Agile P54E	Modbus/ IEC103/ DNP 3/ IEC 61850	24/32	32	5	4	P54C + Extra DI/DO

P54E case dimensions (80TE case)

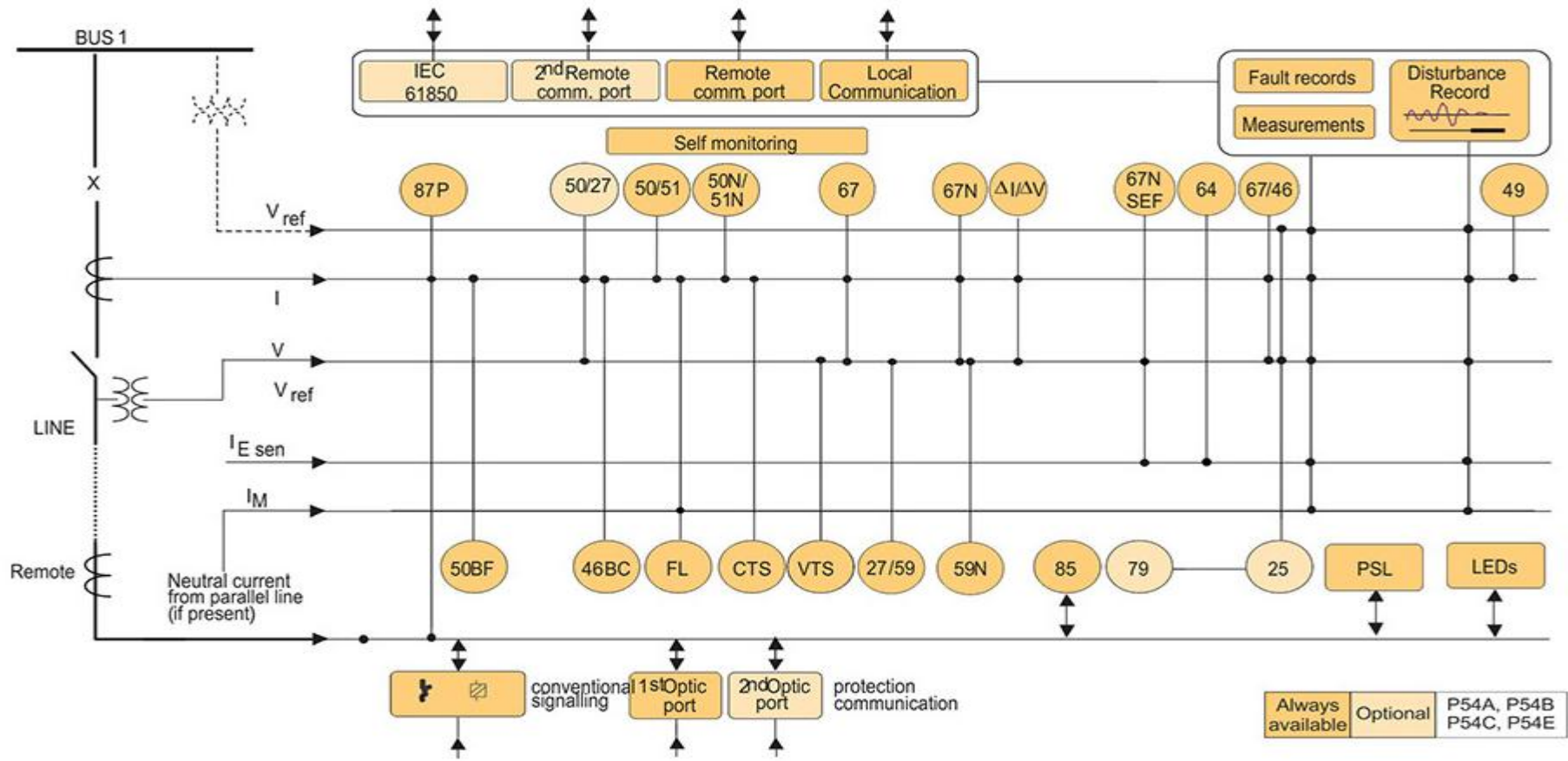
**Dimensions in mm (w x h x l) (80TE case)-
W 413.2 mm H 177.0 mm D 243.1 mm**


Weight
P54E(80TE): 13 kg - 16 kg (depending on chosen options)





Functional Block Diagram



Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
a	 Agile P541	Modbus/ IEC103/ DNP 3	8	7	4	0	87, 50, 51, 49, BC, 50BF, TCS

P541 case dimensions (40TE case)

Design

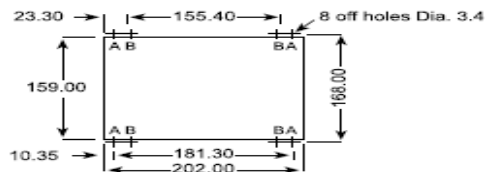
Modular MiCOM Px40 platform
relay, P541 40TE (8")case

Mounting is front of panel flush
mounting or 19" rack mounted
(ordering options).

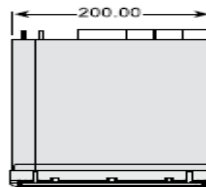
Dimensions in mm (w x h x l) (40TE
case)-W: 206.0 mm H: 177.0 mm D:
243.1 mm

Weight

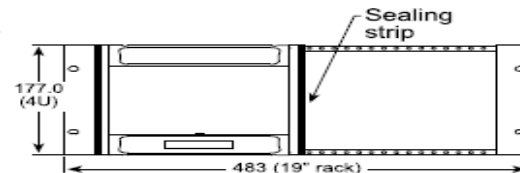
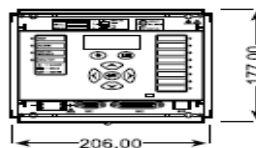
P541 (40TE): 7 kg – 8 kg (depending on
chosen options)



A = Clearance holes
B = Mounting holes



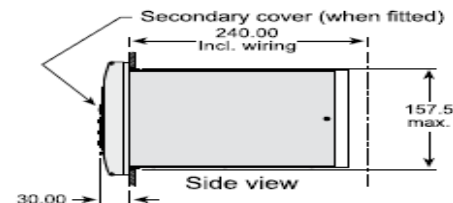
Front view




Flush mounting panel
Panel cut-out detail

Note: If mounting plate is required
use flush mounting cut out
dimensions

All dimensions in mm



Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
b	 Agile P542	Modbus/ IEC103/ DNP 3	16	15	4	0	P541 + 79

P542 case dimensions (60TE case)

Design

Modular MiCOM Px40 platform
relay P54260TE (12"), case

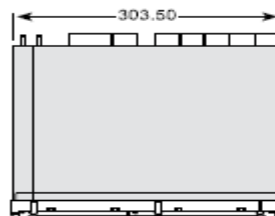
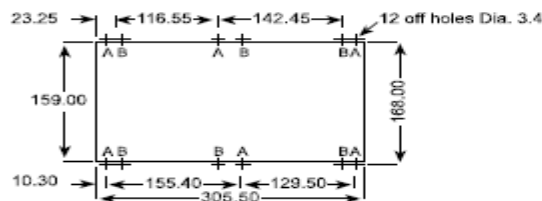
Mounting is front of panel flush
mounting or 19" rack mounted
(ordering options).

Dimensions in mm (w x h x l) (60TE case)-

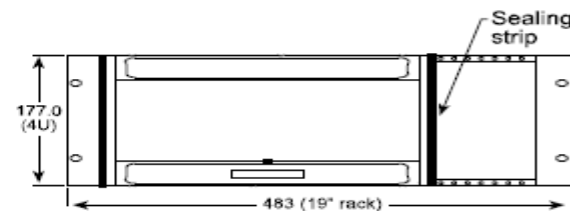
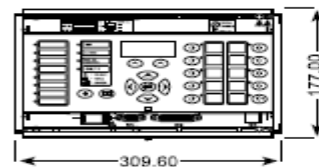
W: 309.6 mm H: 177.0 mm D: 243.1 mm

Weight

P542 (60TE): 9 kg – 12 kg (depending on
chosen options)

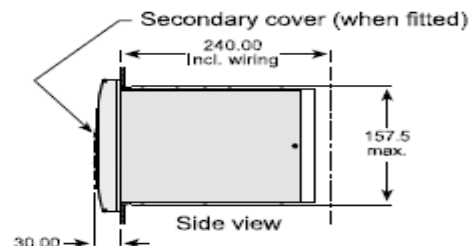


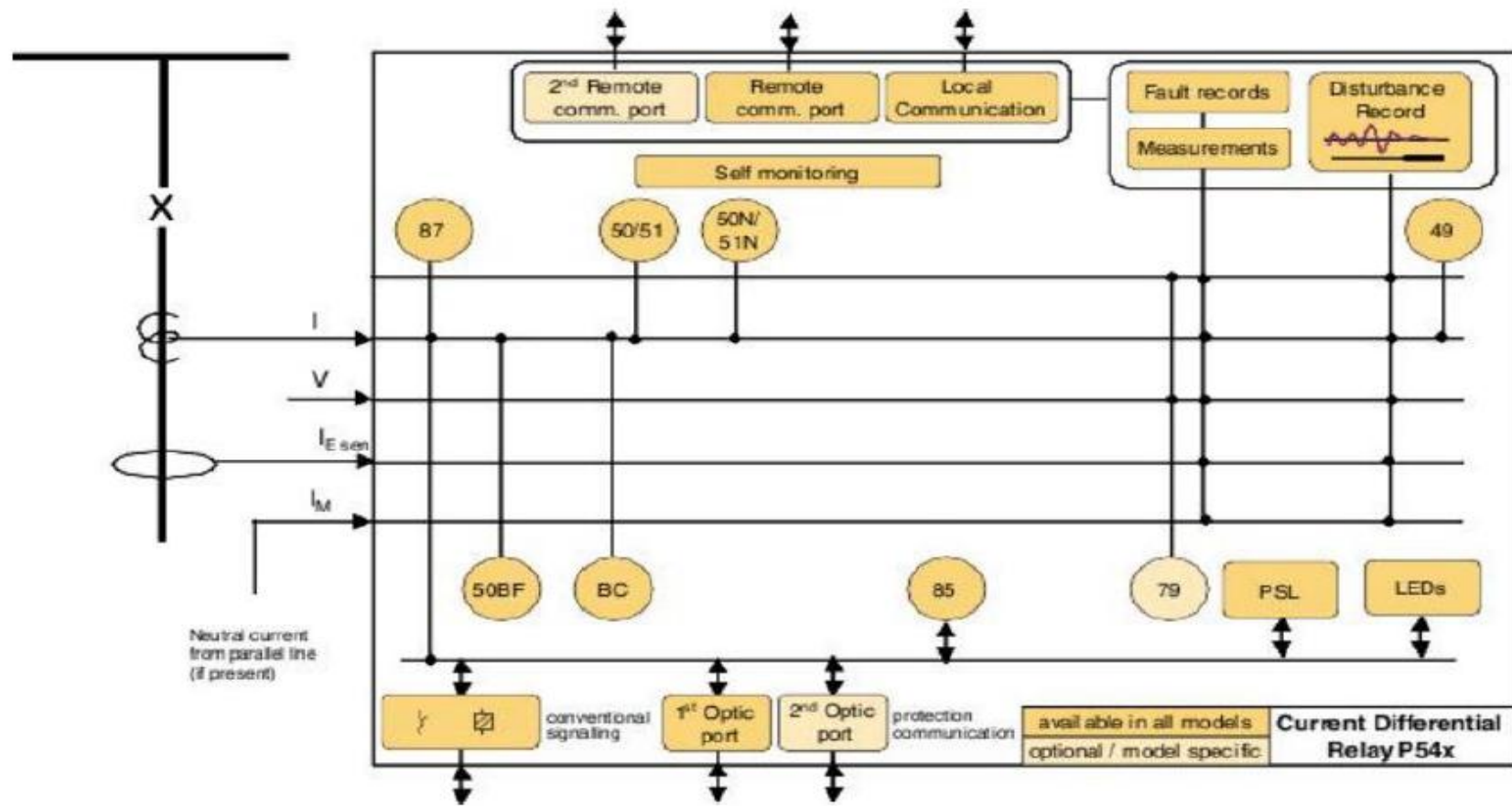
Front view




A = Clearance holes
B = Mounting holes

All dimensions in mm





available in all models	Current Differential Relay P54x
optional / model specific	

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
c	 Agile P543	Modbus/ IEC103/ DNP 3/ IEC 61850	16	14	5	4	87, 21, 85, 50/27, 68, 78, 50/51, 50N/51N, 67, 67N, 64, 67/46, 46BC, 49, 27, 59, 59N, 81U/O/R, 50BF, 79, 25, 21FL

P543 case dimensions (60TE case)

Design

Modular MiCOM Px40 platform relay P543 60TE (12"), case

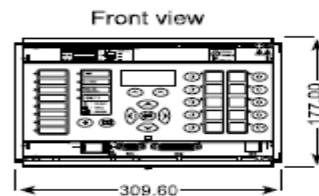
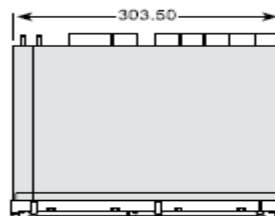
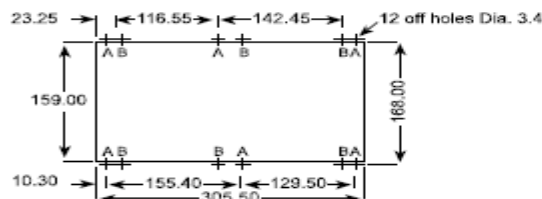
Mounting is front of panel flush mounting or 19" rack mounted (ordering options).

Dimensions in mm (w x h x l) (60TE case)-

W: 309.6 mm H: 177.0 mm D: 243.1 mm

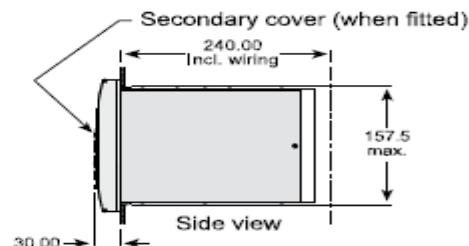
Weight


P543 (60TE): 9 kg – 12 kg (depending on chosen options)



A = Clearance holes
B = Mounting holes

All dimensions in mm



Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
d	 Agile P545	Modbus/ IEC103/ DNP 3/ IEC 61850	32	32	5	4	87, 21, 85, 50/27, 68, 78, 50/51, 50N/51N, 67, 67N, 64, 67/46, 46BC, 49, 27, 59, 59N, 81U/O/R, 50BF, 79, 25, 21FL

P545 case dimensions (80TE case)

Design

Modular MiCOM Px40 platform

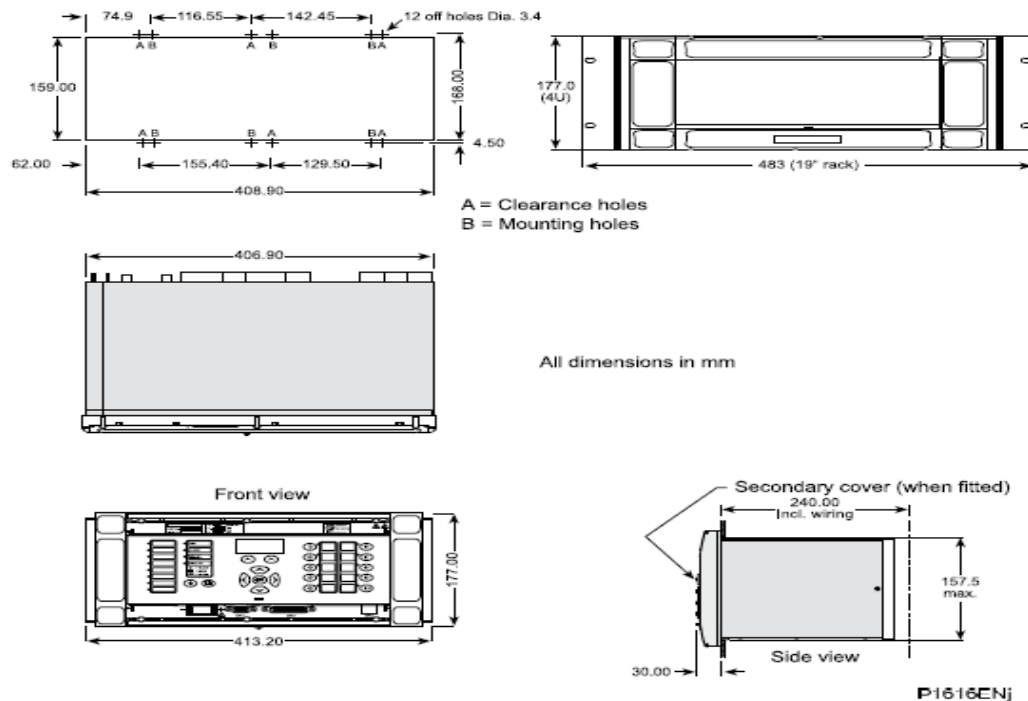
relay P545 80TE (16") case

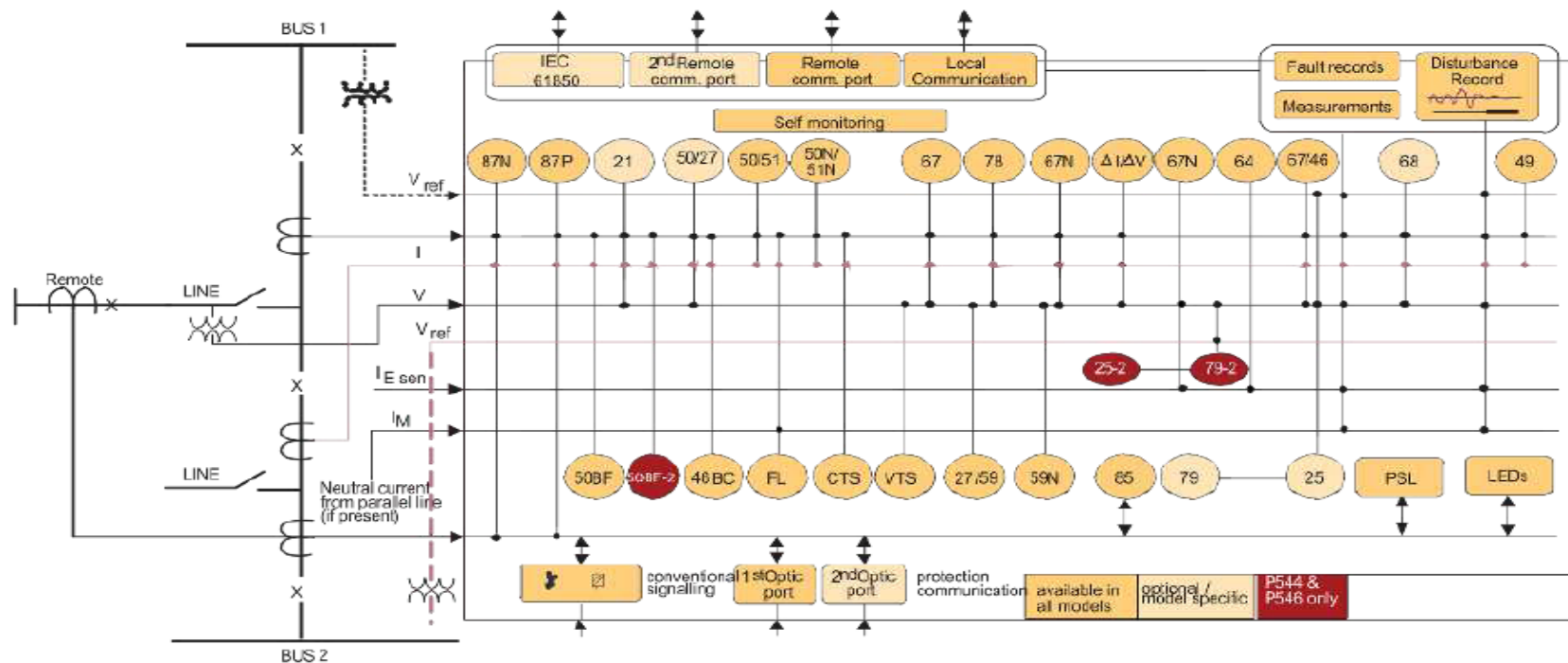
Mounting is front of panel flush mounting or 19" rack mounted (ordering options).

Dimensions in mm (w x h x l) (80TE case)-
W 413.2 mm H 177.0 mm D 243.1 mm

Weight

P545(80TE): 13 kg - 16 kg (depending on chosen options)





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❖ Disclaimer:-

Info given herein is for ease of understanding. Customized tech info is for specific purpose SCS suggests you to take confirmation on technical details from GE experts SCS does not take responsibility or claim this will suit your needs.



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