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## RELAY SELECTION GUIDE- FEEDER PROTECTION



SYSTEM CONTROLS & SWITCHGEARS



Online Solutions for Electrical Needs



# Overview

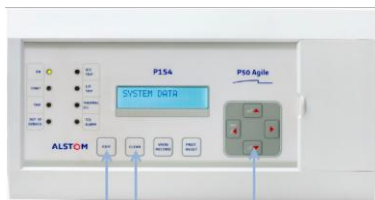
System controls & switchgears is one of the fastest growing companies in India. Established in 1983, a privately owned company has unrivalled experience in the distribution of electrical products. SCS business covers a broad range of Medium Voltage Switchgears, Low Voltage Switchgears, Power Capacitors, 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.



### P50 Agile P153 Compact Feeder Protection

#### ➤ P50 Agile P153

(ANSI Code- 50, 50N, 51, 51N, 68, 49, 37, 46, 46BC, 50BF, CLP, 86, 74)



### P50 Agile P154 Feeder Protection

#### ➤ P50 Agile P154

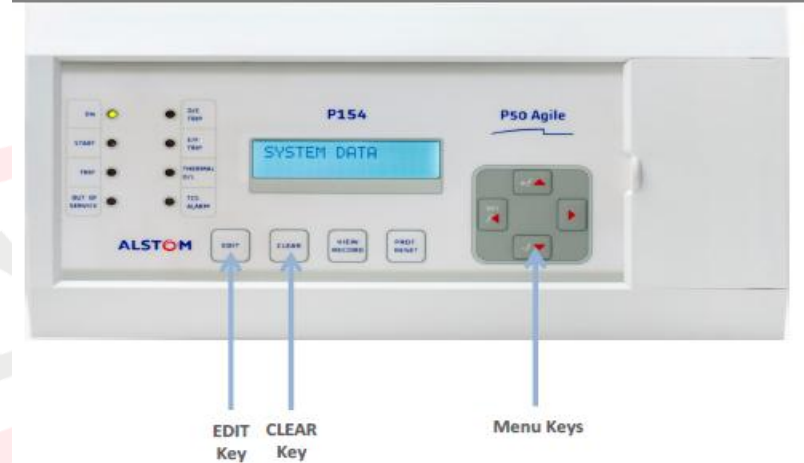
(ANSI Code- 50, 51, 50N, 51N, 46, 49, 50 BF, 64R, 86, 95, 68, 37, 46BC, CLP)



### Human machine interface module

The HMI module is provided with 16x2 LCD, 6 numbers of soft feather touch keys and 6 numbers of LEDs for indication. The front panel houses following:-

- Female USB connector
- Model number of relay.



### Human machine interface module

The HMI module is provided with 16x2 LCD, 8 numbers of soft feather touch keys and 8 numbers of LEDs for indication. The cover at right side of the front panel houses following:-

- Female USB connector
- Serial number of relay.
- Model number of relay.
- Voltage and Current ratings.

### Models :- MiCOM P40 Agile

(P14D directional feeder)

➤ **P14DA** is a compact device

(ANSI Code-37,46,46BC,49,50SOTF,50BF,50,50N,51,51N,67,67N,VTS,CTS,64N,68,27,47,59,59N,81V,51V,81R,86)

➤ **P14DB** is the base device for general application

(ANSI Code-P14DA + 81O,81U,81df/dt,81V)

➤ **P14DG** is for small generator applications

(ANSI Code-P14DB + 51V,25,32)

➤ **P14DL** is for line protection

(ANSI Code-P14DG + 32(Load Blinders),79,21FL,81RF,81RAV,81R)

➤ **P14DH** includes Watt metric Directional Earth Fault protection

(ANSI Code-(P14DG – 78 Voltage Vector Shift)+, 67N Watt metric Directional Earth Fault(WDE protection)

➤ **P14DZ** is for high impedance earth fault applications

(ANSI Code-P14DH + 81R(HIGH IMPEDANCE E/F,CB MONITORING)



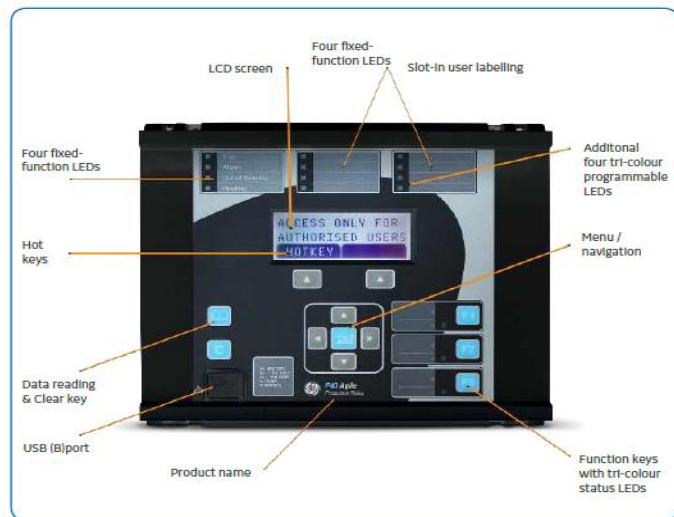
### Models :- MiCOM P40 Agile

(P14N non-directional feeder)

- **P14NB** is the base device for general application  
(ANSI Code- 50,51,50N,51N,68,46,46BC,49,CBCF,86,64R,80)

- **P14NZ** is for high impedance earth fault applications  
(ANSI Code-P14NB + 79)





Physical Measurements	
Case Types	20TE 30TE 40TE
Weight (20TE case)	2 kg - 3 kg (depending on chosen options)
Weight (30TE case)	3 kg - 4 kg (depending on chosen options)
Weight (40TE case)	5.5 kg
Dimensions in mm (w x h x l) (20TE case)	W: 102.4mm H: 177.0mm D: 243.1mm
Dimensions in mm (w x h x l) (30TE case)	W: 154.2mm H: 177.0mm D: 243.1mm
Dimensions in mm (w x h x l) (40TE case)	W: 206.0mm H: 177.0mm D: 243.1mm
Mounting	Panel, rack, or retrofit

## Models



- **P141** is the most basic model providing a cost-effective solution for most applications  
(ANSI Code-50/51,50/51N,67P,67N,67N,64,51V,51R,46,49,37,27/59,59N,DV/DT,47,81O/U,86,32,50BF,60,68,85,21FL,87B)



- **P142** provides all the functionality of the P141, as well as four-shot three-pole auto reclose functionality

(ANSI Code-P141 + 79 + Extra DI/DO)



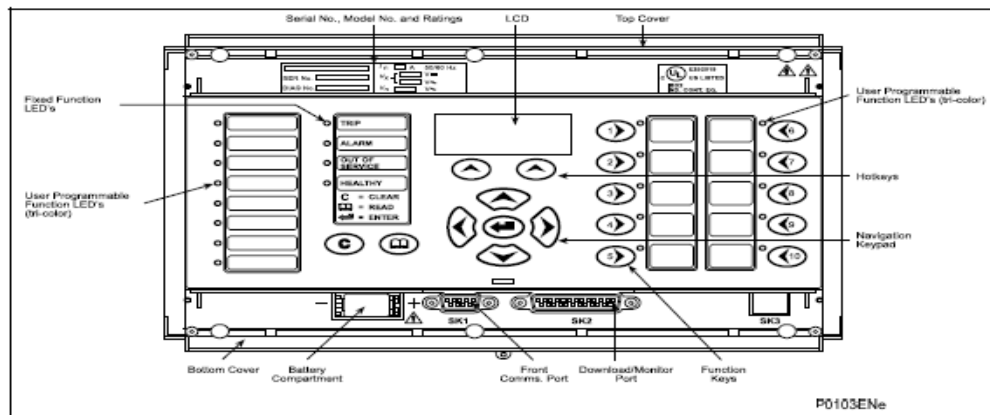
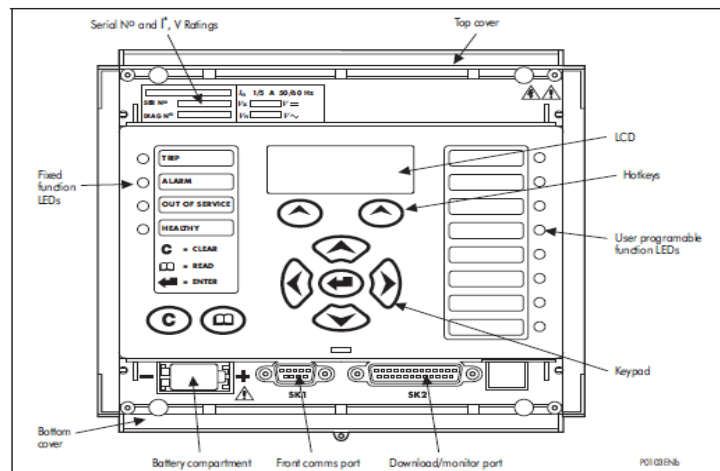
- **P143** provides all the functionality of the P142, as well as a fourth VT for Check Synchronization functionality. Due to its choice of larger case sizes, the P143 can also provide significantly more I/O (opt inputs and relay outputs). Model P also provides switch status and control for disconnections, load break switches and earthling switches

(ANSI Code-P142 + 25 + Extra DI/DO)

- **P145** provides all the functionality of the P143, but in addition has 10 function keys for integral scheme or operator control functionality such as circuit breaker control, auto reclose control and remote communications control. This makes it especially suitable where a complete scheme solution is required.

(ANSI Code-P143 + Function keys)





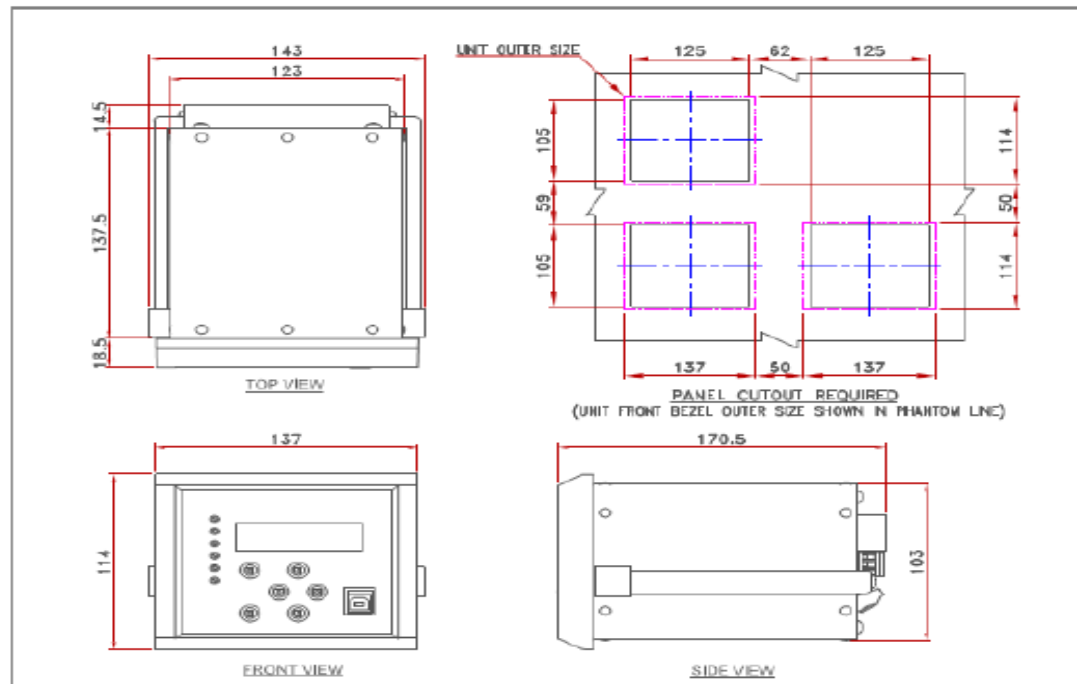
Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
a	Agile P153	Modbus/IEC103/ 60870	4	4	4	0	50, 50N, 51, 51N, 68, 49, 37, 46, 46BC, 50BF, CLP, 86, 74

### MICOM P153



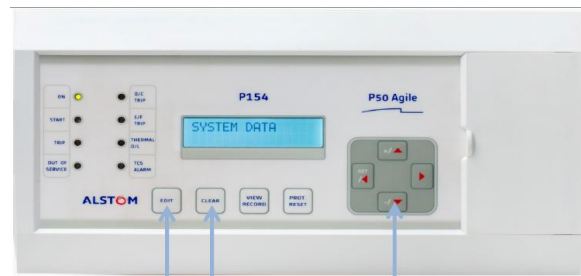
Design -Flush mounting case

Weight -1.9 Kg approximate



Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
b	Agile P154	Modbus/ IEC103/ DNP 3	6	6	4	0	50, 51, 50N, 51N, 46, 49, 50 BF, <b>64R</b> , 86, 95, 68, 37, 46BC, CLP

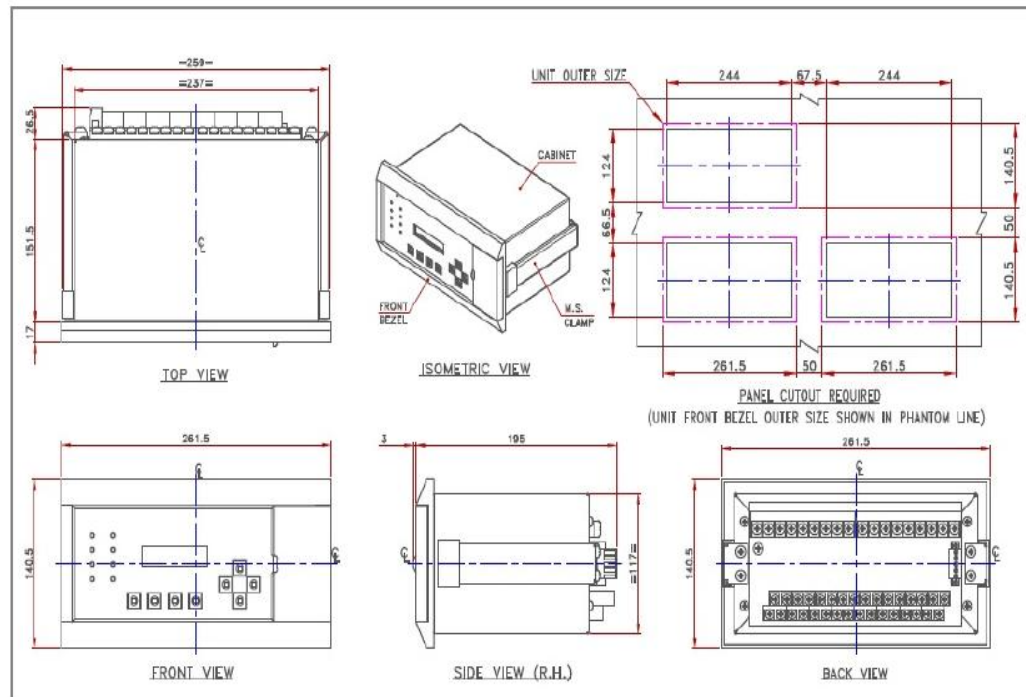
### MICOM P154




### P154 case dimensions

Design Flush mounting case

Weight 3.50 Kg approximate



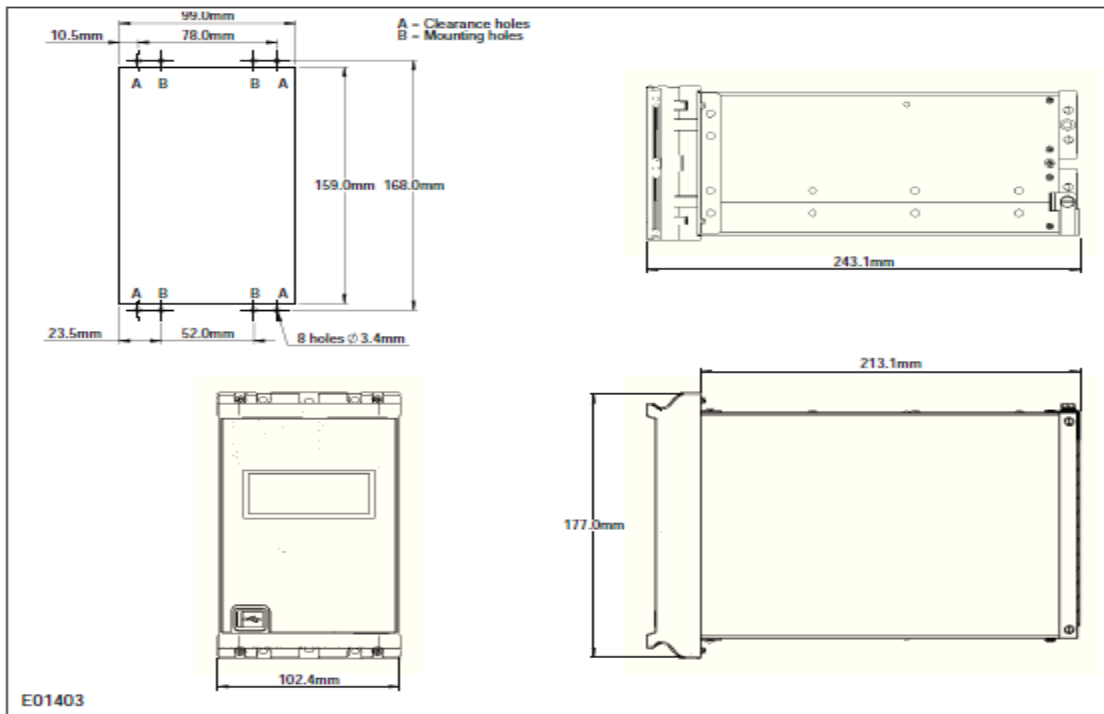
Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
a	 Agile P14DA	Modbus / IEC103	3 / 8	4 / 8	4	4	37,46,46BC,49,50SOTF,50BF,50,50N,51,51N,67,67N,VTS,CTS,64N,68,27,47,59,59N,81V,51V,81R,86

### P14DA case dimensions (20TE case)

Weight (20TE case) 2 kg – 3 kg  
(depending on chosen options)

Dimensions in mm (w x h x l) (20TE case)  
W: 102.4mm H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit



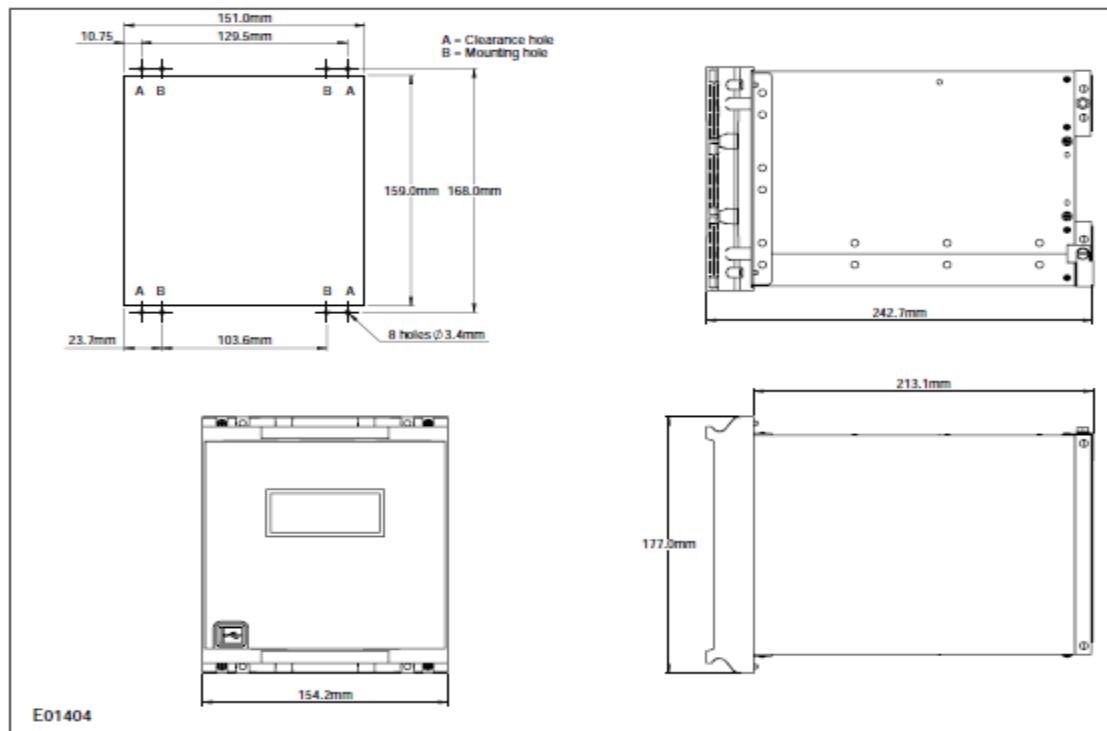
Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
b	Agile P14DB	Modbus / IEC103/61850	8 / 13	8 / 12	4	4	P14DA + 81O,81U,81df/dt,81V(UNDervoltage BLOCKING OF FREQUENCY PROTECTIPN)


### P14DB case dimensions (30TE case)

Weight (30TE case) 3 kg – 4 kg  
(depending on chosen options)

Dimensions in mm (w x h x l) (30TE case) W: 154.2mm  
H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit



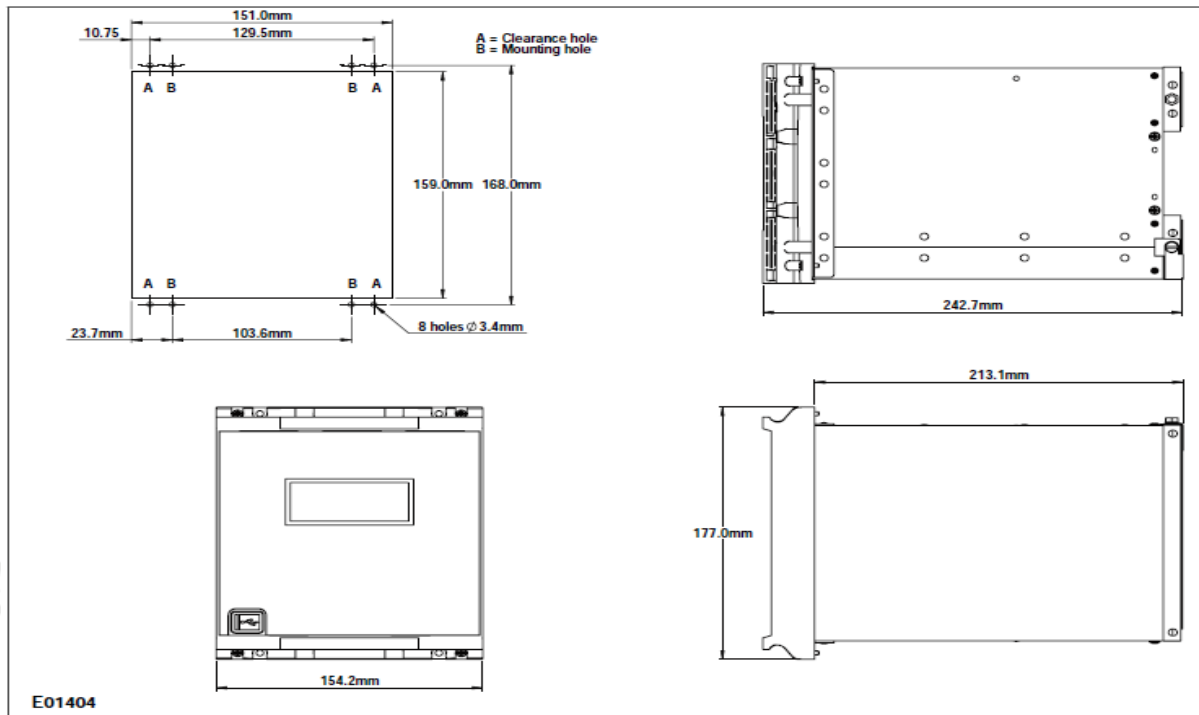
Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
c	 Agile P14DG	Modbus / IEC103/61850	8 / 13	8 / 12	4	4	<b>P14DB + 51V(VOLTAGE RESTRAINED OVERCURRENT),25,32(PHASE DIRECTIONAL POWER,SENSITIVE POWER)</b>


### P14DG-30TE case dimensions

Weight (30TE case) 3 kg – 4 kg  
(depending on chosen options)

Dimensions in mm (w x h x l) (30TE case) W:  
154.2mm H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit



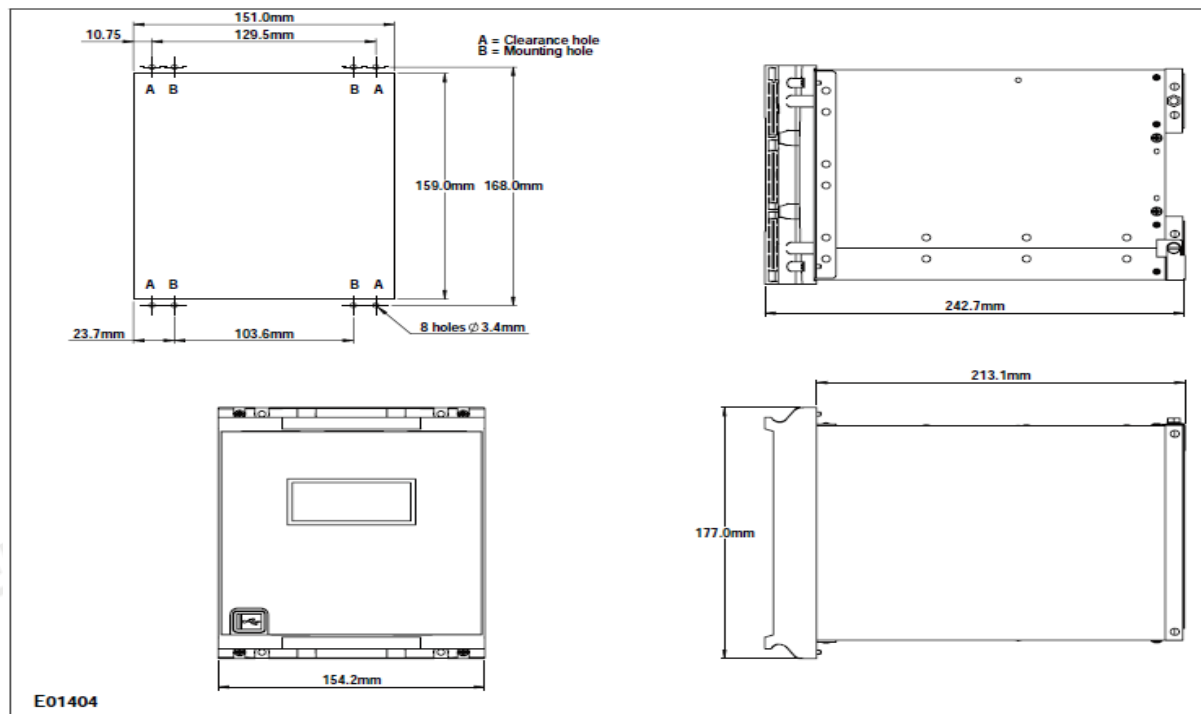
Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
d	 Agile P14DL	Modbus / IEC103/61850	6 / 13	8 / 12	4	4	P14DG+32(LOADBLINDERS),79,21FL,81RF,81RAV,81R(LOAD RESTORATION,dv/dt,NEUTRAL ADMITTANCE PROTECTIO,86

### P14DL-30TE case dimensions

Weight (30TE case) 3 kg – 4 kg  
(depending on chosen options)

Dimensions in mm (w x h x l) (30TE case) W:  
154.2mm H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit



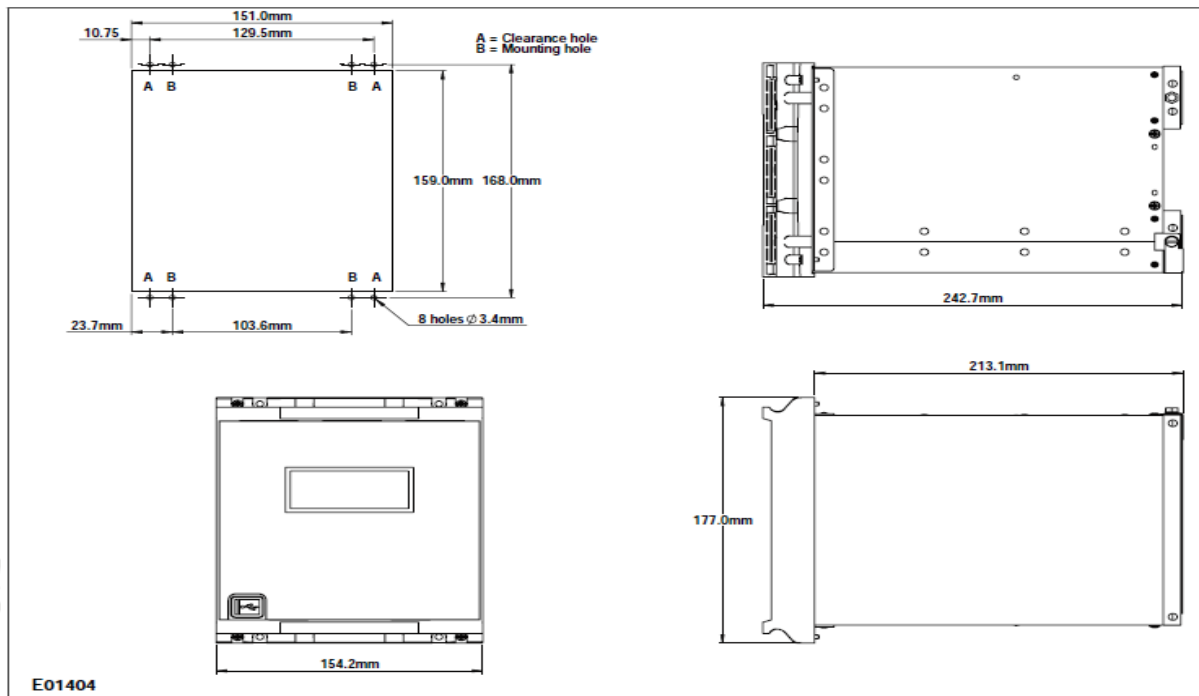
Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
e	Agile P14DH	Modbus / IEC103/61850	6/8/11/ 13	8 / 12	4	4	(P14DG – 78 Voltage Vector Shift)+, 67N Watt metric Directional Earth Fault(WDE protection)

### P14DH-30TE case dimensions

Weight (30TE case) 3 kg – 4 kg  
(depending on chosen options)

Dimensions in mm (w x h x l) (30TE case) W:  
154.2mm H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit





Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
f	Agile P14DZ	Modbus / IEC103/61850	6/8/11/13	8 / 12	4	4	P14DH + 81R(HIGH IMPEDANCE E/F,CB MONITORING)

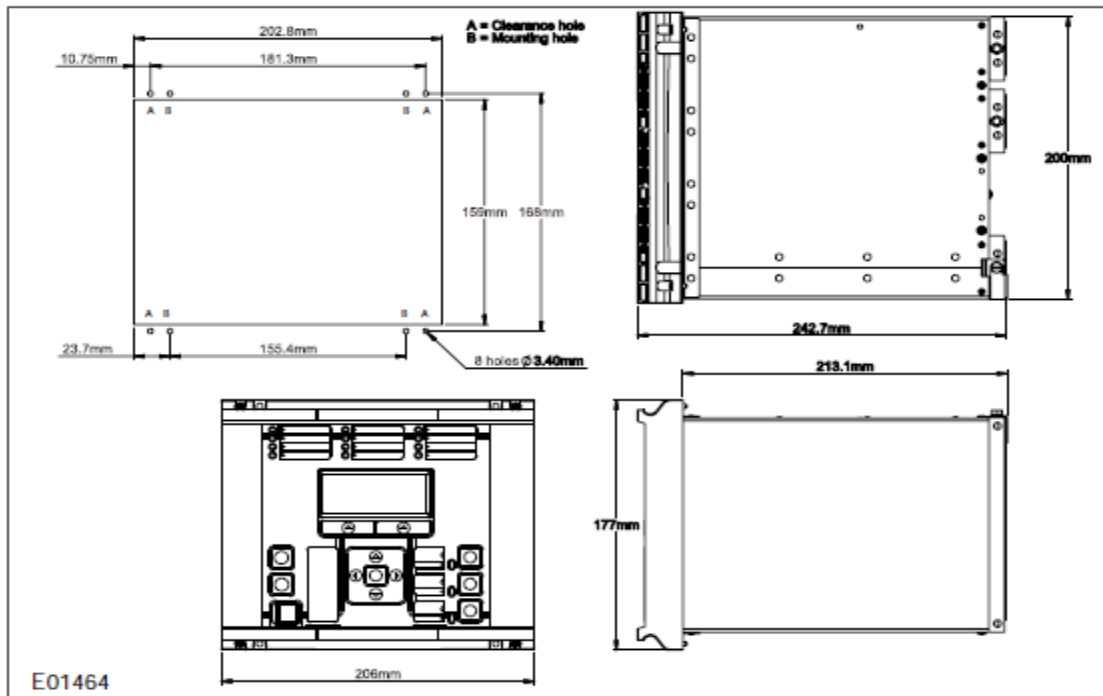
**P14DH,DG,DL,DH-30TE/40 TE case dimensions**

**Weight (40TE case) 5.5 kg**

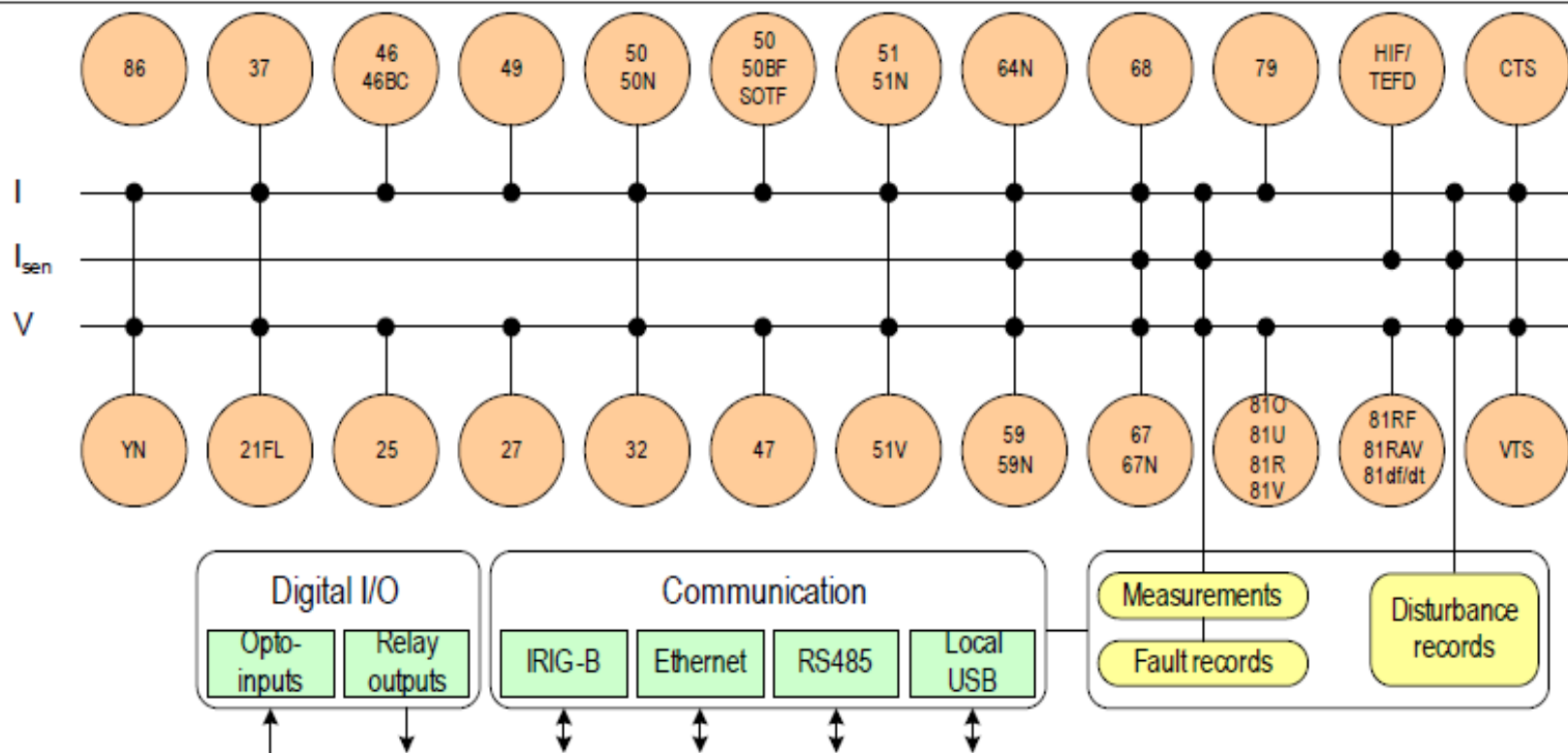
**Dimensions in mm (w x h x l) (30TE case) W: 154.2mm H: 177.0mm D: 243.1mm**

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


**Mounting Panel, rack, or retrofit**



## Functional Overview



V00001

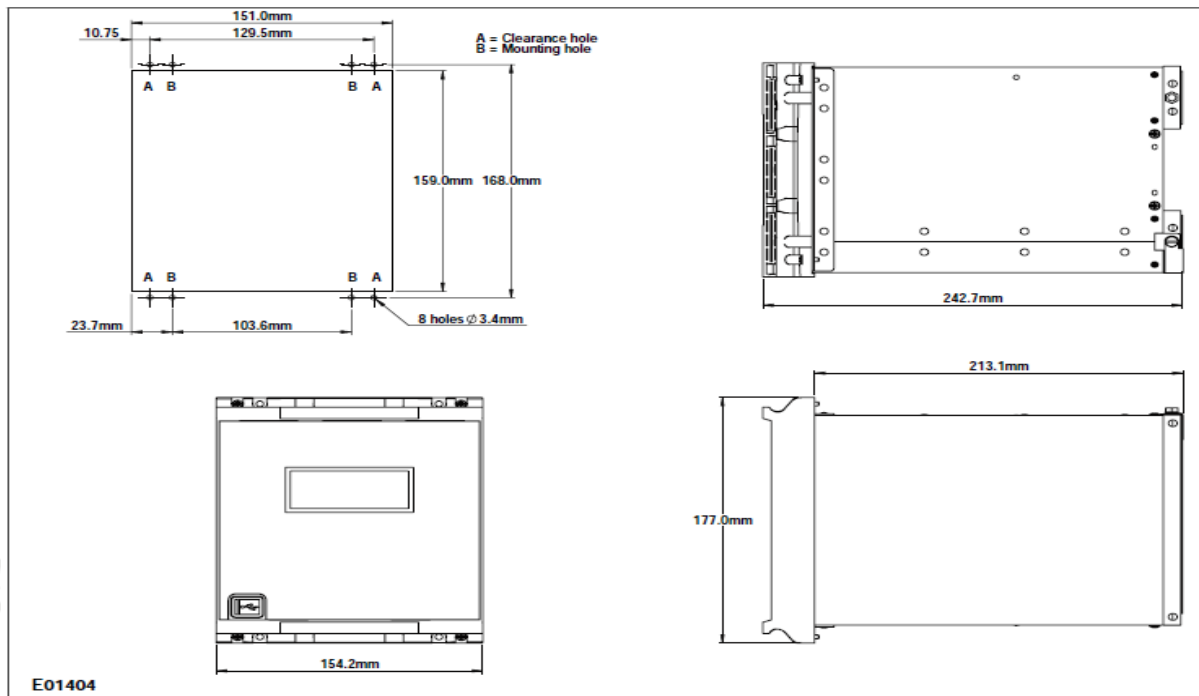
Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
g	 Agile P14NB	Modbus / IEC103/61850	3 / 8 / 11	4 / 8 / 12	4	0	50,51,50N,51N,68,46,46BC,49,CBCF,86,64R,80


### P14NB-30TE case dimensions

Weight (30TE case) 3 kg – 4 kg  
(depending on chosen options)

Dimensions in mm (w x h x l) (30TE case) W:  
154.2mm H: 177.0mm D: 243.1mm

Mounting Panel, rack, or retrofit



Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
h	 Agile P14NZ	Modbus / IEC103/61850	3 / 8 / 11	4 / 8 / 12	4	0	P14NB + 79

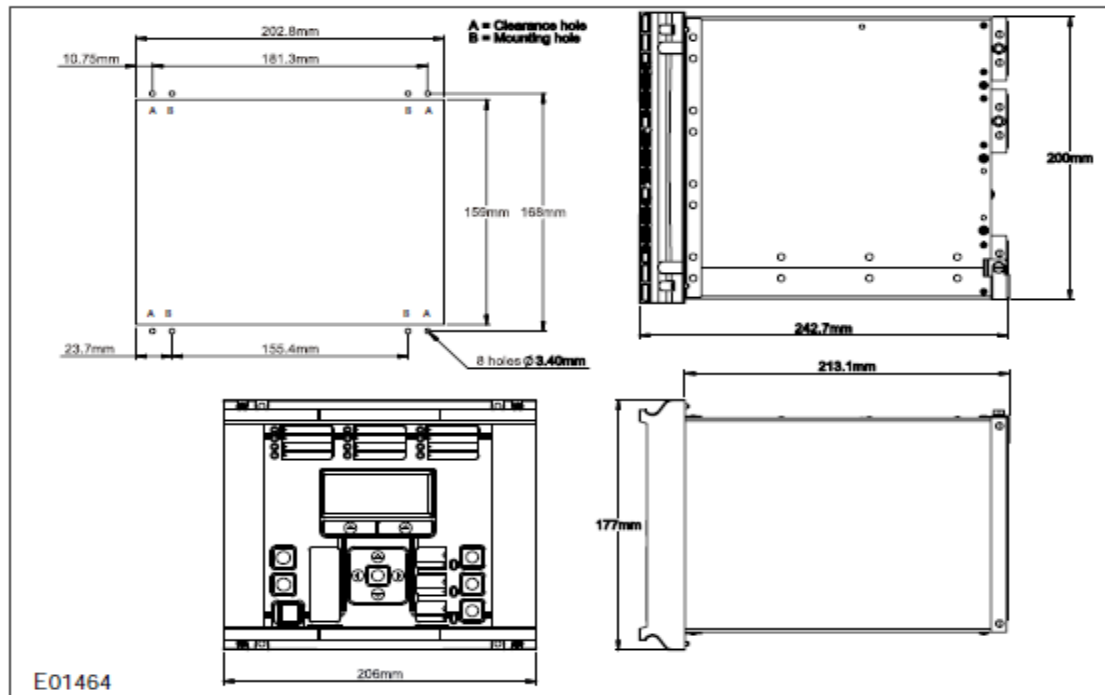
### P14NB,NZ-30TE/40 TE case dimensions

Weight (40TE case) 5.5 kg

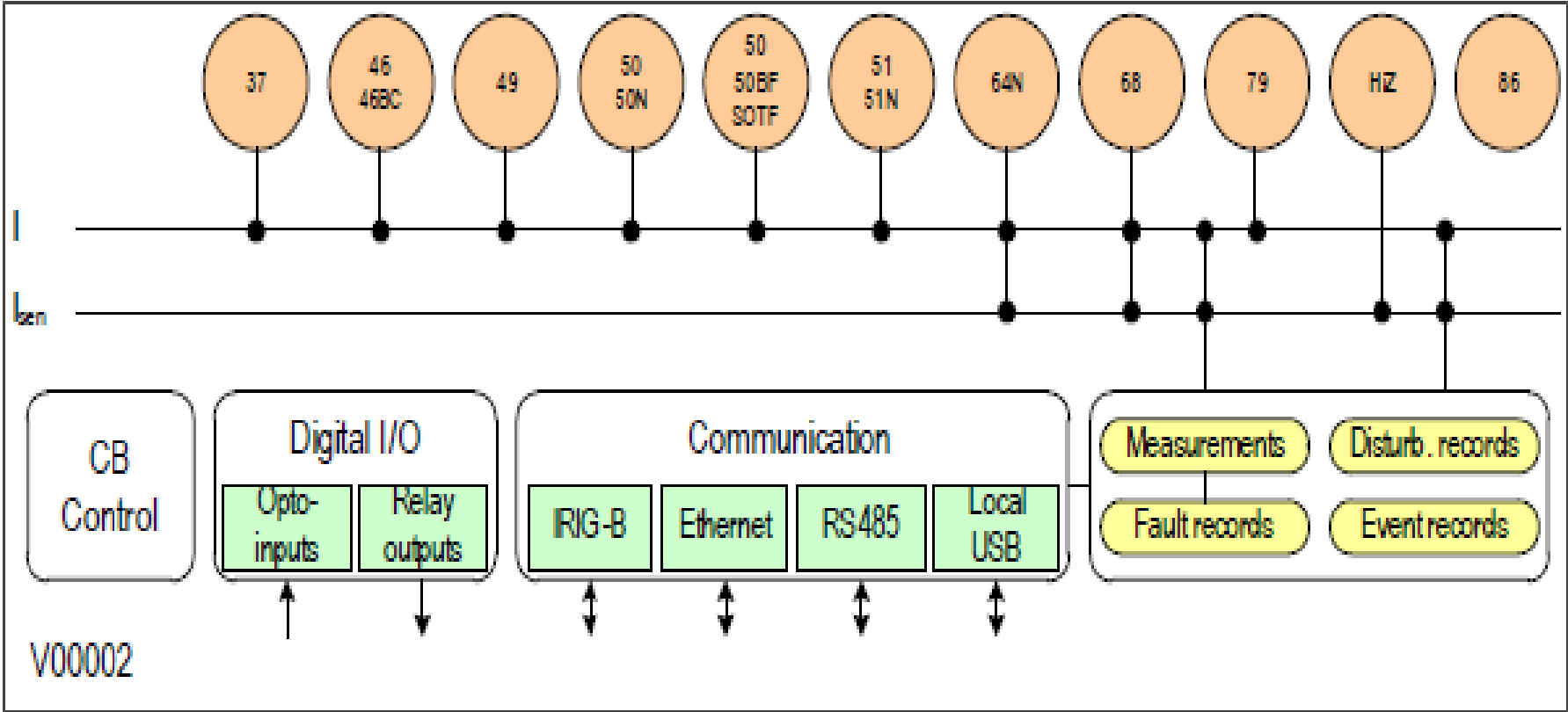
Dimensions in mm (w x h x l) (30TE case) W: 154.2mm H: 177.0mm D: 243.1mm


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

Mounting Panel, rack, or retrofit



Functional Overview



Sr. No	Model of relay	Protocol	Input ( Min / Max)	Outputs ( Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
A	 Agile P141	Modbus / IEC103/61850	8	7	4	3	50/51,50/51N,67P,67N,67N,64,51V,51R,46,49,37,27/59,59N,DV/DT,47,81O/U,86,32,50BF,60,68,85,21FL,87B

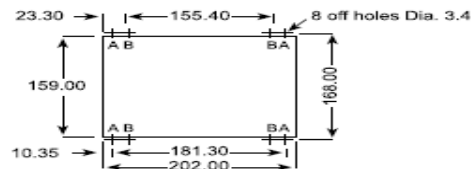
### P141 case dimensions (40TE case)

#### DESIGN

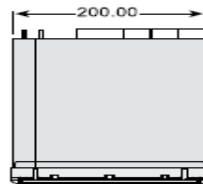
Modular MiCOM Px40 platform relay,  
W: 206.0 mm H: 177.0 mm D: 243.1 mm  
P141 in 40TE Mounting is front  
of panel flush mounting, or 19" rack  
mounted (ordering options).

#### WEIGHT

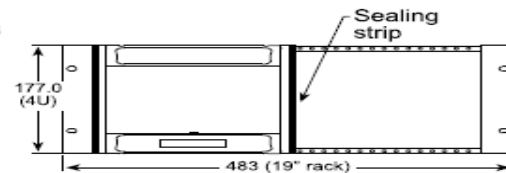
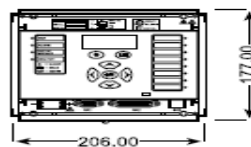
P141 40TE: 7 kg – 8 kg (depending on chosen  
options)



A = Clearance holes  
B = Mounting holes



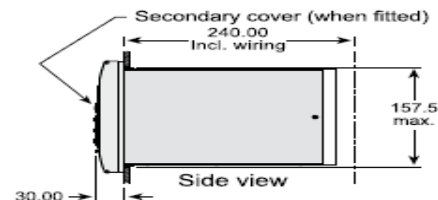
Front view




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 P142	Modbus / IEC103/61850	8 / 16	7 / 15	5	4	P141 + 79 + Extra DI/DO

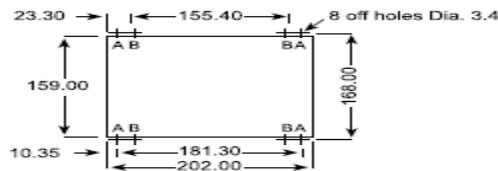
### P142 case dimensions (40TE case)

#### DESIGN

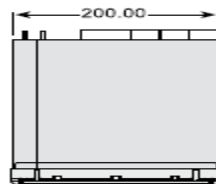
Modular MiCOM Px40 platform relay,  
W: 206.0 mm H: 177.0 mm D: 243.1 mm  
P142 in 40TE Mounting is front  
of panel flush mounting, or 19" rack  
mounted (ordering options).

#### WEIGHT

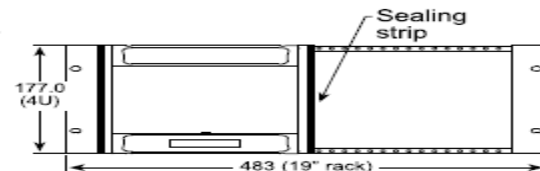
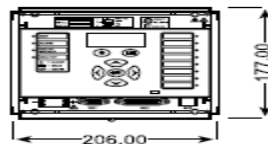
P142 40TE: 7 kg – 8 kg (depending on chosen  
options)



A = Clearance holes  
B = Mounting holes



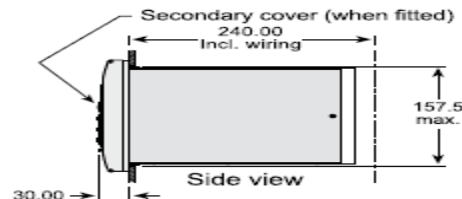
Front view




Flush mounting panel  
Panel cut-out detail

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

All dimensions in mm



Side view

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max)	CT INPUTS	VT INPUTS	ANSI Code
C	 Agile P143	Modbus / IEC103/61850	16 / 32	14 / 32	5	4	P142 + 25 + Extra DI/DO

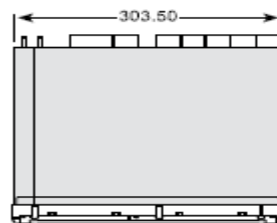
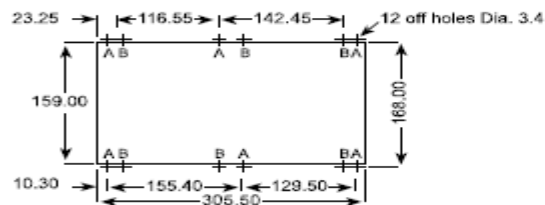
### P143 case dimensions (60TE case)

#### WEIGHT

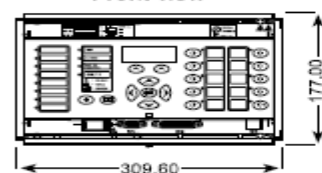
9 kg – 12 kg (depending on chosen options)

#### DESIGN

Modular MiCOM Px40 platform relay,  
P143 60TE W: 309.6 mm H: 177.0 mm D: 243.1 mm or 19" rack mounted (ordering options).

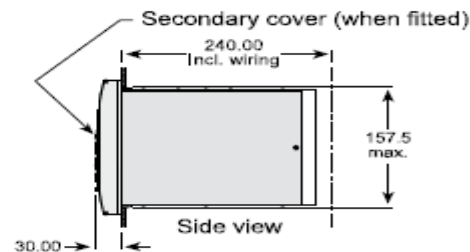


Front view



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
E	 Agile P145	Modbus / IEC103/61850	16 / 32	14 / 32	5	4	P143 + Function keys

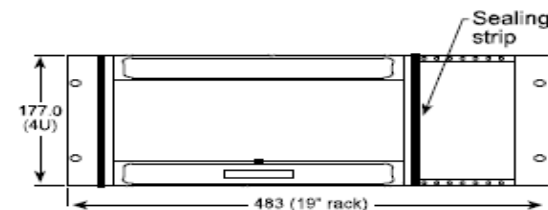
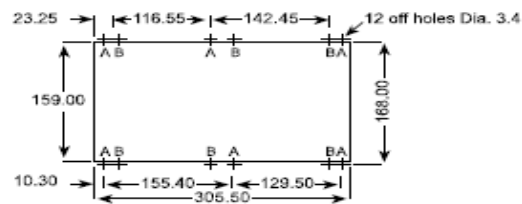
### P145 case dimensions (60TE case)

#### WEIGHT

9 kg – 12 kg (depending on chosen options)

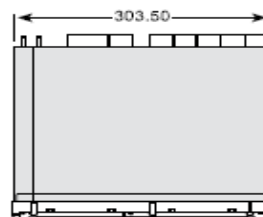
#### DESIGN

Modular MiCOM Px40 platform relay,  
P145 60TE W: 309.6 mm H: 177.0 mm D: 243.1 mm or 19" rack mounted (ordering options).

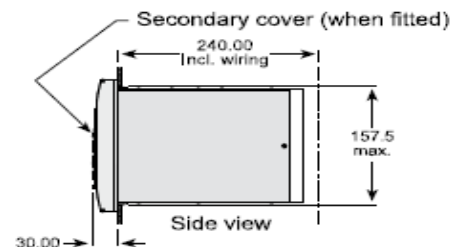
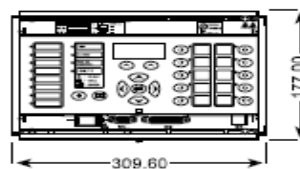


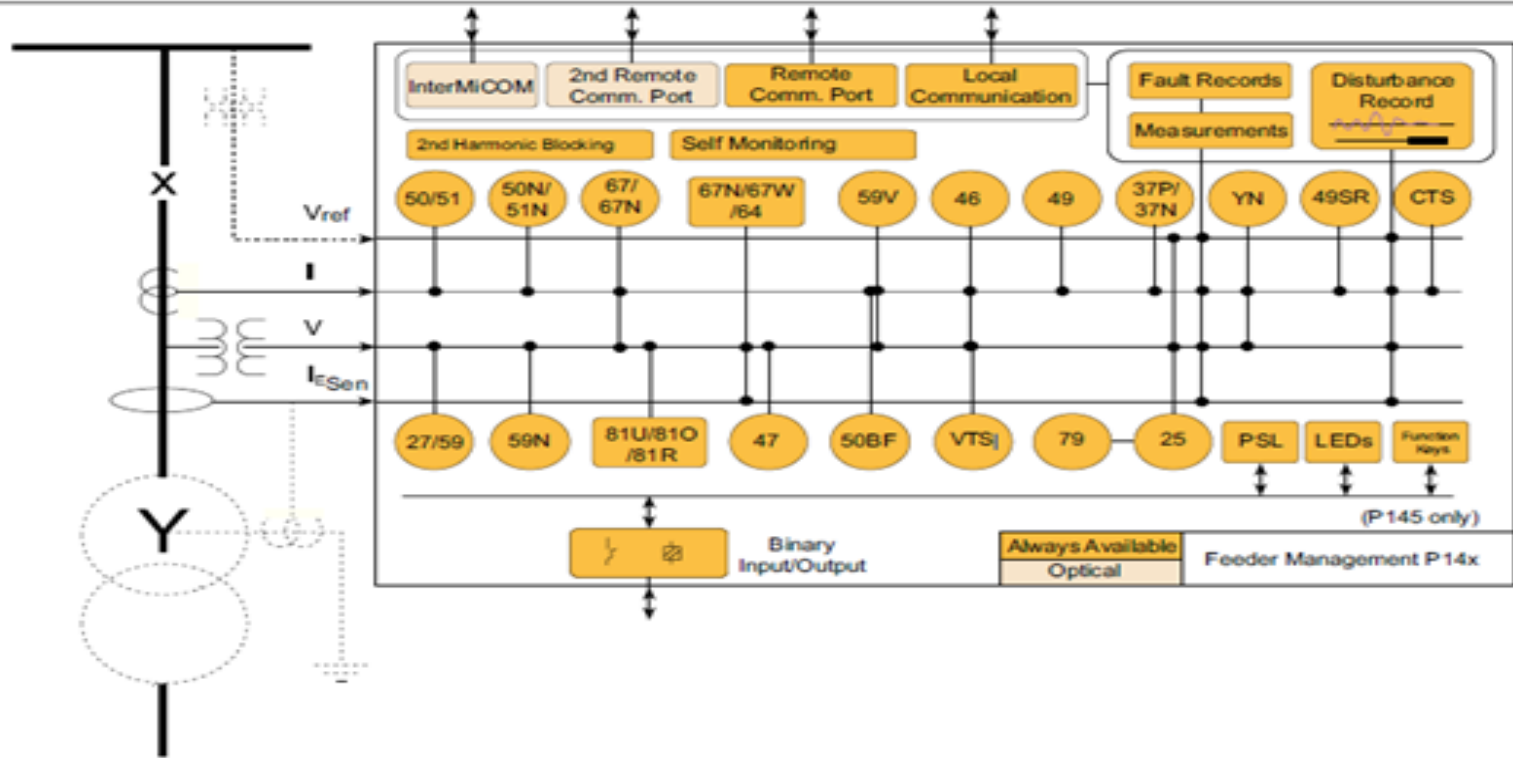
A = Clearance holes  
B = Mounting holes

All dimensions in mm



Front view





### ❖ 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.



## SYSTEM CONTROLS & SWITCHGEARS

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[Sales@systemcontrols.co. in/](mailto:Sales@systemcontrols.co.in) [support@systemcontrols.co.in](mailto:support@systemcontrols.co.in)



Sales :- 011-45631915,45631902,09810009036



Support :- 9717143393



011-45631903

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