INGEPAC

DA PTC

IEC 61850 Digital Interface
primary switchgear control

Software:

- All INGEPAC range devices can be set and monitored with powerful software tools by Ingeteam running in a Windows® environment. This application software has been specifically designed for simple and user-friendly access to the devices.

INGESAS EFS

INGEPAC™ DA PTC are IEDs designed for the remote input and output of IEC 61850 systems. It supports the IEC61850 Ed. 2 data model and GOOSE messages (IEC61850-8-1), as well as the DNP3.0 protocol.

The equipment has high capacity for inputs and outputs, making it an ideal solution as a bay interface with a control system. It is also capable of programming user logic to group signals and set locking conditions by software in the field level.

INGEPAC™ DA PTC can be set up with the easy-to-use software tools supplied with the device (PACFactory) and via website access.

Functions
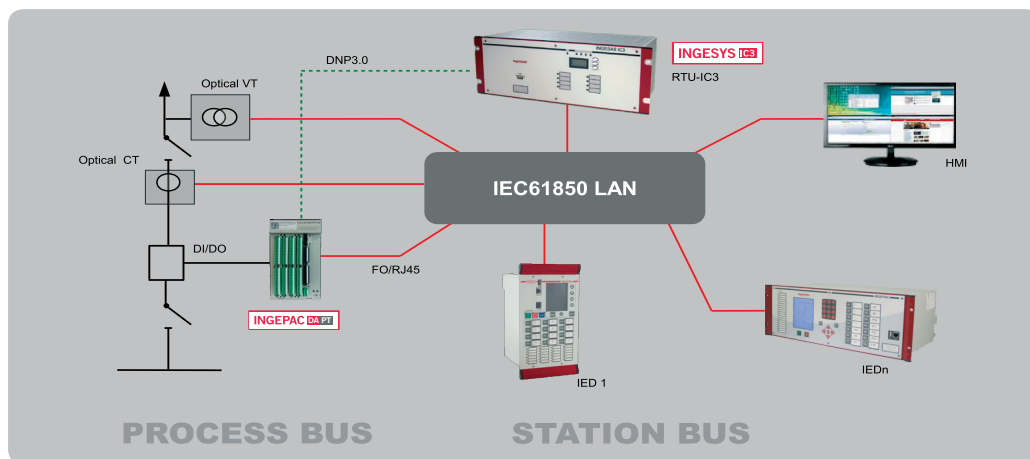
Functions

Capture of wired digital signals and switchgear control.
Communication with the substation level.
Programmable user logic

Data acquisition functions
Chronological recording of events and faults

Communications

RJ45 front port
Rear ports: one serial RS232/485 and two Ethernet ports
Protocols: IEC61850 Ed.2, DNP3.0
Web server and FTP

Synchronisation
Via SNTP communication

Ingeteam

Electromagnetic and Insulation Tests

Test	Standard
· Measurements of conducted radioelectric disturbances	EN55022
· Measurements of radiated disturbance field strength	EN55022
· Insulation resistance measurement	IEC60255-5
· Dielectric withstand	IEC60255-5
· Impulse voltage	IEC60255-5
· Electrostatic discharge immunity	IEC61000-4-2
· Radiated radiofrequency electromagnetic field immunity	EN 61000-4-3
· Electrical fast transient/burst immunity	IEC61000-4-4
· Surge immunity	IEC61000-4-5
· Immunity to conducted disturbances, induced by radio-frequency fields	IEC61000-4-6
· Power frequency magnetic field immunity test	IEC61000-4-8
· Impulse magnetic field immunity	IEC61000-4-9
· Damped oscillatory magnetic field immunity	IEC61000-4-10
· Ripple on dc input power port	IEC61000-4-17
· Damped oscillatory wave immunity	IIEC61000-4-18
· Voltage dips, short interruptions and voltage variations immunity	IEC61000-4-29
· Power frequency immunity	IEC60255-22-7
· Withstand to radiated electromagnetic interference from transceivers	IEEE C37.90.2

Climate Tests

Test	Standard
· Low temperature test Cold	IEC 60068-2-1
· Dry heat test	IEC 60068-2-2
· Thermal shock	IEC 60068-2-14
· Moist heat Continuous	IEC 60068-2-78

Mechanical Tests

Test	Standard
· Sinusoidal vibration	IEC 60255-21-1/ EN 60068-2-6
· Impacts and shocks	IEC 60255-21-2/ EN 60068-2-27
· Seismic	IEC 60255-21-3
· Random vibration	IEC 60068-2-64

Main Features

Simple and economic solution to convert wired signals and commands into digital close to the primary equipment

Programmable user logic signals in an IEC61131-3-based environment

Data model IEC61850 Ed.2, including GOOSE messages (IEC61850-8-1)

Back-to-back connection to replace long cable distances with fibre optics

Several programmable digital input and output options

Rear panel mounting

Event recording

Options

Two types of housing (2 or 4 slots for input and output cards)

Available power supplies: 24/48 Vdc or 125/220 Vdc

Maximum configurations of 104 digital inputs and 32 digital outputs

Applications

Remote input and output module for substation switchgear

DNP3.0 remote terminal unit for small facilities

Converter cable / Fibre optics

Programmable Logic Controller for user automation needs

Ingeteam