

# KYN61-40.5(Z)

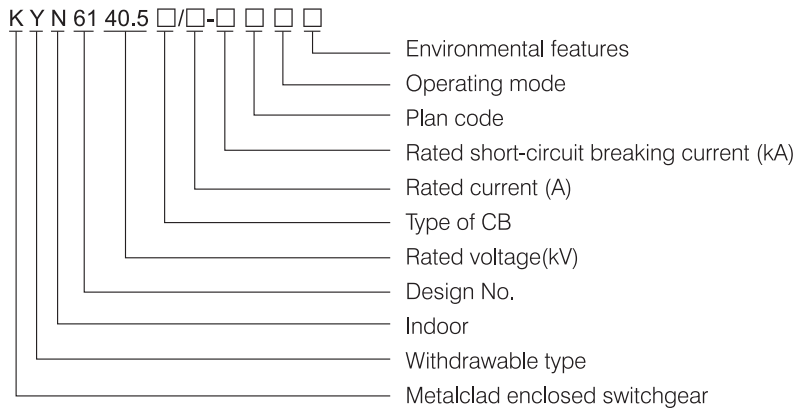
## KYN61-40.5(Z) Metalclad AC Enclosed Switchgear, Withdrawable Type



### 1. General

- 1.1 Ratings: system voltage 40.5kV, rated current up to 2000A, AC 50/60Hz.
- 1.2 Application: applicable for power receiving and distribution of power plant and substations for control, protection and measurement.
- 1.3 Standard: IEC 62271-200

### 2. Type Designation



### 3. Working Condition

- 3.1 Ambient air temperature: -15°C ~ +40°C (-25°C ~ +45°C available as customized products)
  - 3.2 Altitude: ≤1000m
  - 3.3 Relative humidity: Daily average ≤95%  
Monthly average ≤90%
  - 3.4 Earthquake intensity: ≤magnitude 8
  - 3.5 Applicable in the places without corrosive and flammable gas.
- ※ Note: Customized products are available.

# KYN61-40.5(Z)

## 4. Main Technical Parameter

### 4.1 Switchgear Panel Parameters

| Item  | Unit  | Data                        |
|---|---|-----------------------------|
| Rated voltage   | kV  | 40.5                        |
| Rated current   | Rated current of main bus bar   | A 1250,1600,2000,(2500)     |
|   | Rated current of matched VCB  | A 1250,1600,2000,(2500)     |
| Rated current   | 1min power frequency withstand voltage                                      | KV 95                       |
|   | Lightning withstand voltage   | kV 185                      |
|   | Power frequency withstands voltage of auxiliary circuit and control circuit | V/1min 2000                 |
| Rated frequency   | Hz  | 50                          |
| Rated short-circuit breaking current                                    | kA  | 20 25 31.5                  |
| Rated short-time withstand current/ Rated short-circuit continuous time | kA/4s   | 20 25 31.5                  |
| Rated withstands current (peak)   | kA  | 50 63 80*                   |
| Rated short-circuit making current                                      | kA  | 50 63 80*                   |
| Rated voltage of control circuit  | V   | DC: 110 220;<br>AC: 110 220 |
| Protection level  | Switchgear shell  | IP3X                        |
|   | Compartments (door opened)  | IP2X                        |

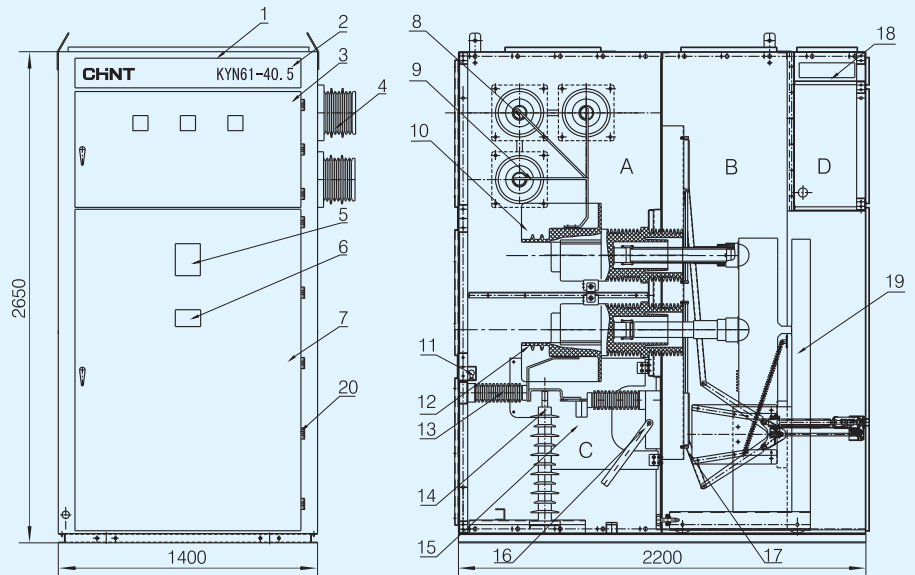
### 4.2 VCB Parameter

| Item   | Unit   | Data                            |
|--|--|---------------------------------|
| Rated voltage  | kV   | 40.5                            |
| Rated current  | A  | 1250,1600,2000,(2500)           |
| Rated frequency  | Hz   | 50                              |
| Rated short-time breaking current                                      | kA   | 20 25 31.5                      |
| Rated short-circuit making current                                     | kA   | 50 63 80                        |
| Rated peak withstand current   | kA   | 50 63 80                        |
| Rated short-time withstand current/Rated short-circuit continuous time | kA/4s  | 20 25 31.5                      |
| Rated insulation level   | 1min power frequency withstand voltage (rms)                               | kV 95                           |
|  | Thundering withstand voltage(rms)  | kV 185                          |
|  | Power frequency withstand voltage of auxiliary circuit and control circuit | V/1min 2000                     |
| Mechanical life  | Times  | 10000                           |
| Making time  | Electro-magnetic mechanism   | s $\leq 0.2$                    |
|  | Spring mechanism   | s $\leq 0.15$                   |
| Breaking time  | s  | $\leq 0.07$                     |
| Rated operation sequence   |  | open-0.3s-close open-180s-close |

# KYN61-40.5(Z)

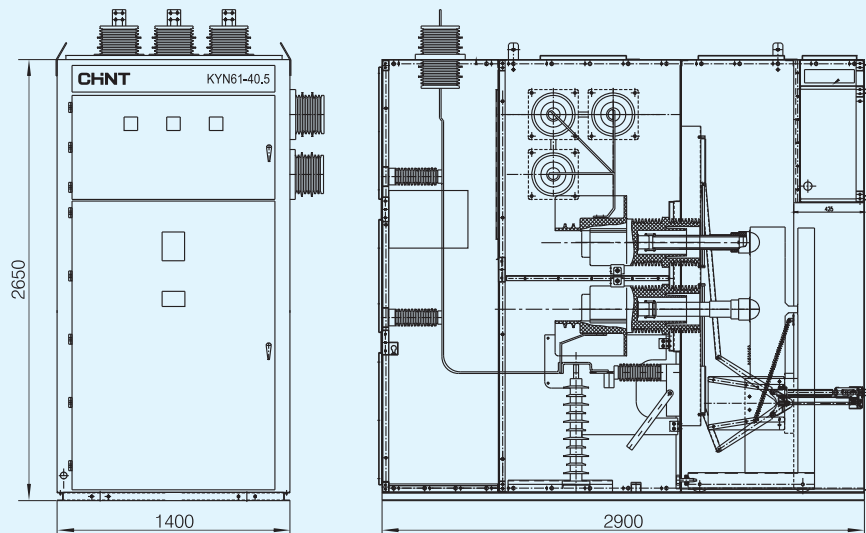
## 5. Construction

Steel construction switchgear panel (Unit:mm)



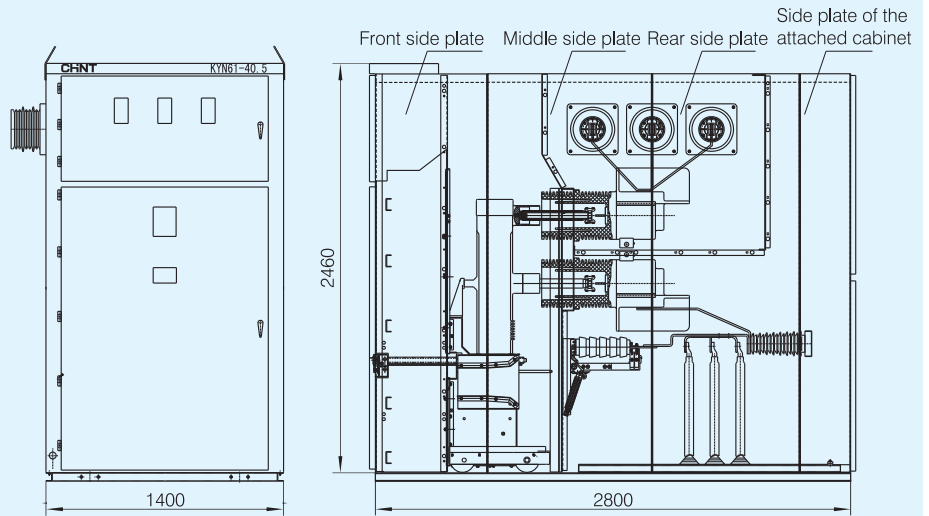
- A. Bus compartment B. Trolley C. Cable compartment D. Relay meters compartment  
 1. Assembly 2. Mini bus compartment covering plate 3. Meters compartment door  
 4. Bus bushing 5. Analog bus 6. Nameplate 7. Trolley compartment door 8. Main bus  
 9. Branch bus 10. Contact box 11. Lamb 12. CT 13. Insulator  
 14. Oxide zinc surge arrester 15. Insulating plate 16. Earthing switch 17. Valve assembly  
 18. Mini bus terminal 19. VCB trolley 20. Hinge

Steel construction switchgear with an accessory cabinet (overheaded incoming feeder) switchgear (Unit:mm)



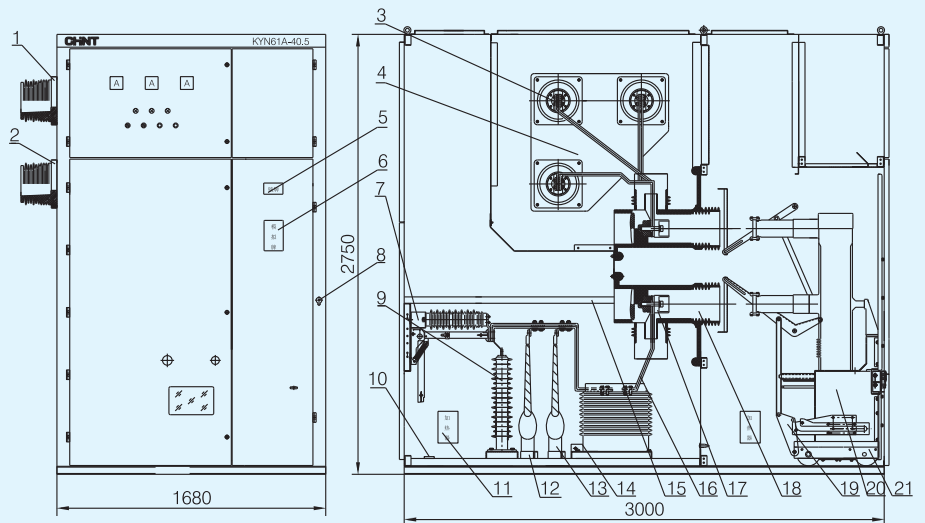
# KYN61-40.5(Z)

Aluminum-zinc deposited construction with an accessory cabinet switchgear (Unit:mm)



※ Note: depth of overhead incoming cabinet is 3300mm

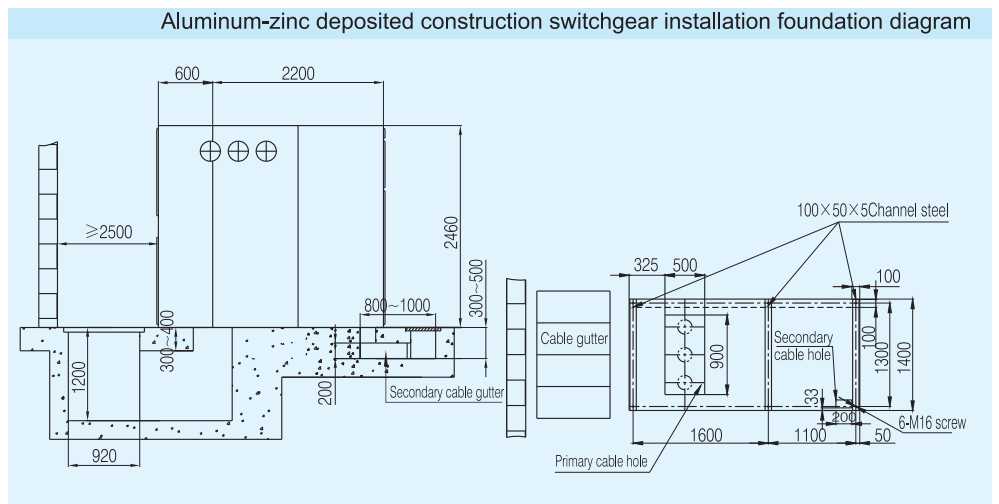
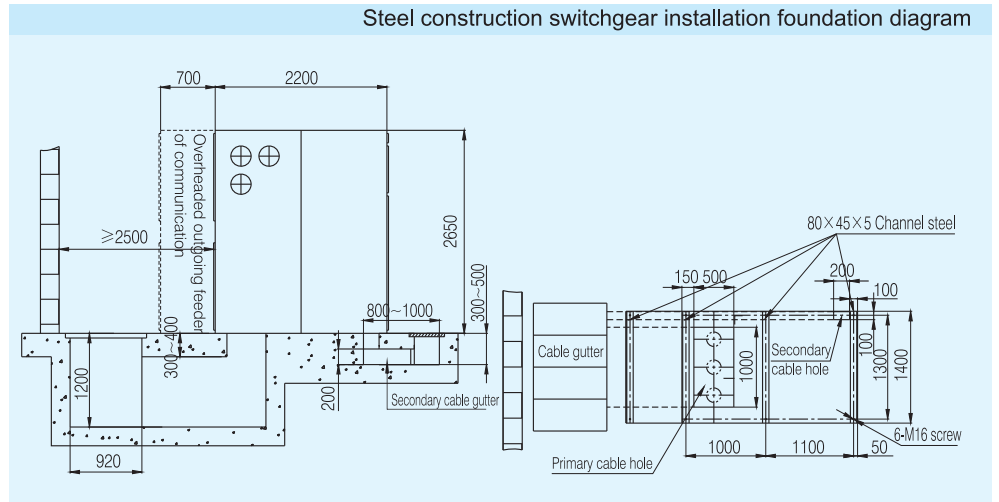
## KYN61A-40.5 (1680mm wide type panel)



- |                                     |                                     |  |
|-------------------------------------|-------------------------------------|--|
| 1. 35kV Bushing                     | 8. Seal plate                       | 15. Earthing switch operating interlocking mechanism |
| 2. Panel body assembly              | 9. Surge arrester                   | 16. Lower branch bus                                 |
| 3. Main bus and branch bus assembly | 10. Earthing bus assembly           | 17. Primary static contact                           |
| 4. Main bus clapboard               | 11. Heater                          | 18. 35kV Contact box                                 |
| 5. Nameplate                        | 12. Cable clamp                     | 19. Valve mechanism assembly                         |
| 6. Imitating plate                  | 13. Primary HV cable and cable head | 20. Secondary socket and interlocking assembly       |
| 7. Earthing switch                  | 14. Current transformer             | 21. VCB (with trolley)                               |

# KYN61-40.5(Z)

## 6. Installation Base and Dimension (Unit:mm)



# KYN61-40.5(Z)

## 7. Single Line Diagram

| Program No.                | 001                                   | 002                                   | 003                                   | 004                                   |
|----------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Single line diagram        |                                       |                                       |                                       |                                       |
| Main electrical components | VCB ZN85-40.5                         | 1                                     | 1                                     | 1                                     |
|                            | CT LDJ5-35Q                           |                                       | 1-3                                   | 1-3                                   |
|                            | PT                                    |                                       |                                       |                                       |
|                            | HV Capacitor                          |                                       |                                       |                                       |
|                            | Earthing switch                       | 0-1                                   | 0-1                                   | 0-1                                   |
|                            | Live Monitor                          | 0-1                                   | 0-1                                   | 0-1                                   |
|                            | Surge arrester                        | 0/3                                   | 0/3                                   | 0/3                                   |
| Application                | Overhead incoming and outgoing feeder | Overhead incoming and outgoing feeder | Overhead incoming and outgoing feeder | Overhead incoming and outgoing feeder |

| Program No.                | 005                                | 006                                | 007                                | 008                                |
|----------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Single line diagram        |                                    |                                    |                                    |                                    |
| Main electrical components | VCB ZN85-40.5                      | 1                                  | 1                                  | 1                                  |
|                            | CT LDJ5-35Q                        |                                    | 1-3                                | 1-3                                |
|                            | PT                                 |                                    |                                    |                                    |
|                            | HV Capacitor                       |                                    |                                    |                                    |
|                            | Earthing switch                    | 0-1                                | 0-1                                | 0-1                                |
|                            | Live Monitor                       | 0-1                                | 0-1                                | 0-1                                |
|                            | Surge arrester                     | 0/3                                | 0/3                                | 0/3                                |
| Application                | Cable incoming and outgoing feeder | Cable incoming and outgoing feeder | Cable incoming and outgoing feeder | Cable incoming and outgoing feeder |

# KYN61-40.5(Z)

| Program No.                | 009  | 010  | 011  | 012  |
|----------------------------|--|--|--|--|
| Single line diagram        |  |  |  |  |
| Main electrical components |  |  |  |  |
| VCB ZN85-40.5              | 1  | 1  | 1  | 1  |
| CT LDJ5-35Q                |  | 1-3  |  | 1-3  |
| PT                         |  |  |  |  |
| HV Capacitor               |  |  |  |  |
| Earthing switch            |  |  |  |  |
| Live Monitor               | 0-1  | 0-1  | 0-1  | 0-1  |
| Surge arrester             | 0/3  | 0/3  | 0/3  | 0/3  |
| Application                | Overhead Incoming(outgoing) feeder communicating | Overhead Incoming(outgoing) feeder communicating | Overhead Incoming(outgoing) feeder communicating | Overhead Incoming(outgoing) feeder communicating |

| Program No.                | 013                        | 014                        | 015                        | 016                        |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Single line diagram        |                            |                            |                            |                            |
| Main electrical components |                            |                            |                            |                            |
| VCB ZN85-40.5              | 1                          | 1                          | 1                          | 1                          |
| CT LDJ5-35Q                |                            | 1-3                        | 1-3                        | 4-6                        |
| PT                         |                            |                            |                            |                            |
| HV Capacitor               |                            |                            |                            |                            |
| Earthing switch            |                            |                            |                            |                            |
| Live Monitor               | 0-1                        | 0-1                        | 0-1                        | 0-1                        |
| Surge arrester             | 0/3                        | 0/3                        | 0/3                        | 0/3                        |
| Application                | Left (right) communicating | Left (right) communicating | Left (right) communicating | Left (right) communicating |

# KYN61-40.5(Z)

| Program No.                | 017                        | 018                        | 019                        | 020                        |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Single line diagram        |                            |                            |                            |                            |
| Main electrical components |                            |                            |                            |                            |
| VCB ZN85-40.5              |                            |                            |                            |                            |
| CT LDJ5-35Q                |                            | 1-3                        | 1-3                        | 4-6                        |
| PT                         |                            |                            |                            |                            |
| HV Capacitor               |                            |                            |                            |                            |
| Earthing switch            |                            |                            |                            |                            |
| Live Monitor               | 0-1                        | 0-1                        | 0-1                        | 0-1                        |
| Surge arrester             | 0/3                        | 0/3                        | 0/3                        | 0/3                        |
| Application                | Left (right) communicating | Left (right) communicating | Left (right) communicating | Left (right) communicating |

| Program No.                | 021                                   | 022                                   | 023                                   | 024                                   |
|----------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Single line diagram        |                                       |                                       |                                       |                                       |
| Main electrical components |                                       |                                       |                                       |                                       |
| VCB ZN85-40.5              | 1                                     | 1                                     | 1                                     | 1                                     |
| CT LDJ5-35Q                |                                       | 1-3                                   | 1-3                                   | 4-6                                   |
| PT                         |                                       |                                       |                                       |                                       |
| HV Capacitor               |                                       |                                       |                                       |                                       |
| Earthing switch            | 0-1                                   | 0-1                                   | 0-1                                   | 0-1                                   |
| Live Monitor               | 0-1                                   | 0-1                                   | 0-1                                   | 0-1                                   |
| Surge arrester             | 0/3                                   | 0/3                                   | 0/3                                   | 0/3                                   |
| Application                | Overhead incoming and outgoing feeder | Overhead incoming and outgoing feeder | Overhead incoming and outgoing feeder | Overhead incoming and outgoing feeder |



# KYN61-40.5(Z)

| Program No.                | 025                                | 026                                | 027  | 028   |     |
|----------------------------|------------------------------------|------------------------------------|--|---|-----|
| Single line diagram        |                                    |                                    |  |   |     |
| Main electrical components | VCB ZN85-40.5                      | 1                                  | 1  | 1   | 1   |
|                            | CT LDJ5-35Q                        | 1-3                                | 1-3  | 1-3   | 1-3 |
|                            | PT                                 |                                    |  | 2   | 2   |
|                            | HV Capacitor                       |                                    |  |   |     |
|                            | Earthing switch                    | 0-1                                | 0-1  | 0-1   | 0-1 |
|                            | Live Monitor                       | 0-1                                | 0-1  | 0-1   | 0-1 |
|                            | Surge arrester                     |                                    |  |   |     |
| Application                | Cable incoming and outgoing feeder | Cable incoming and outgoing feeder | Measuring+ Overhead incoming and outgoing feeder | Measuring+Overhead incoming and outgoing feeder |     |

| Program No.                | 029                               | 030                               | 031                                  | 032                                  |     |
|----------------------------|-----------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|-----|
| Single line diagram        |                                   |                                   |                                      |                                      |     |
| Main electrical components | VCB ZN85-40.5                     | 1                                 | 1                                    | 1                                    | 1   |
|                            | CT LDJ5-35Q                       | 1-3                               | 1-3                                  | 1-3                                  | 1-3 |
|                            | PT                                | 2                                 | 2                                    | 2                                    | 2   |
|                            | HV Capacitor                      |                                   |                                      |                                      |     |
|                            | Earthing switch                   | 0-1                               | 0-1                                  | 0-1                                  | 0-1 |
|                            | Live Monitor                      | 0-1                               | 0-1                                  | 0-1                                  | 0-1 |
|                            | Surge arrester                    |                                   |                                      |                                      |     |
| Application                | Measuring & cable incoming feeder | Measuring & cable incoming feeder | Measuring & left/right communicating | Measuring & left/right communicating |     |

# KYN61-40.5(Z)

| Program No.                | 033             | 034                                     | 035                            | 036                                     |
|----------------------------|-----------------|---|--------------------------------|---|
| Single line diagram        |                 |   |                                |   |
| Main electrical components | VCB ZN85-40.5   |   |                                |   |
|                            | CT LDJ5-35Q     |   |                                |   |
|                            | 1-3             | 1-3                                     | 1-3                            | 1-3                                     |
|                            | 3               | 3                                       | 3                              | 3                                       |
|                            | Earthing switch |   |                                |   |
|                            | 0-1             | 0-1                                     | 0-1                            | 0-1                                     |
|                            | 0/3             | 0/3                                     | 0/3                            | 0/3                                     |
| Application                | PT              | PT & cable incoming and outgoing feeder | PT & left(right) communicating | PT overhead & left(right) communicating |

| Program No.                | 037             | 038   | 039  | 040   |
|----------------------------|-----------------|---|--|---|
| Single line diagram        |                 |   |  |   |
| Main electrical components | VCB ZN85-40.5   |   |  |   |
|                            | CT LDJ5-35Q     |   |  |   |
|                            | PT              |   |  |   |
|                            | HV Capacitor    |   |  |   |
|                            | Earthing switch |   |  |   |
|                            | 0-1             | 0-1   | 0-1  | 0-1   |
|                            | 3               | 3   | 3  | 3   |
| Application                | Surge arrester  | Surge arrester & cable incoming and outgoing feeder | Surge arrester & left(right) communicating | Surge arrester overhead & left(right) communicating |

# KYN61-40.5(Z)

| Program No.                | 041  | 042                                    | 043                                  | 044                                  |         |
|----------------------------|--|--|--------------------------------------|--------------------------------------|---------|
| Single line diagram        |  |  |                                      |                                      |         |
| Main electrical components | VCB ZN85-40.5                                |  |                                      |                                      |         |
|                            | CT LDJ5-35Q                                  |  |                                      |                                      |         |
|                            | PT   | 1-3                                    |                                      |                                      |         |
|                            | HV Capacitor                                 | 3                                      | 3(XRNT)                              | 3(XRNT)                              | 3(XRNT) |
|                            | Earthing switch                              |  |                                      |                                      |         |
|                            | Live Monitor                                 |  |                                      |                                      |         |
| Surge arrester             |  |  |                                      |                                      |         |
| Application                | PT + surge arrester and communicating feeder | Transformer overhead and communicating | Transformer                          | Transformer                          |         |
| Note                       |  | Transformer SC9-35                     | Transformer SC9-35                   | Transformer SC9-35                   |         |
| Program No.                | 045  | 046                                    | 047                                  | 048                                  |         |
| Single line diagram        |  |  |                                      |                                      |         |
| Main electrical components | VCB ZN85-40.5                                | 1                                      | 1                                    | 1                                    | 1       |
|                            | CT LDJ5-35Q                                  | 3                                      | 3                                    | 3                                    | 3       |
|                            | PT   | 3                                      | 3                                    | 3                                    | 3       |
|                            | HV Capacitor                                 |  |                                      |                                      |         |
|                            | Earthing switch                              | 0-1                                    | 0-1                                  | 0-1                                  | 0-1     |
|                            | Live Monitor                                 | 0-1                                    | 0-1                                  | 0-1                                  | 0-1     |
| Surge arrester             |  |  |                                      |                                      |         |
| Application                | Measuring & cable incoming feeder            | Measuring & cable incoming feeder      | Measuring & left/right communicating | Measuring & left/right communicating |         |