

FACPAC Contract Change Order

Supplemental Information Form (Ref# 55998)

Form Status: Saved

Tier 1 Project: New Jefferson Elementary School

BG Number: 19-068

Status: Active

District: Henderson County (251)

Phase: Project Initiation (View Checklist)

Contract: PREMIER ELECTRIC, INC., 0018, ELECTRICAL

Type: CM Bid Package

Proposed

Change Order Number 18-2
 Time Extension Required No
 Date Of Change Order 1/27/2022
 Change Order Amount To Date

Construction Contingency

Calculations below are project wide. Remaining negative Construction Contingency may require the submission of a revised BG1.

| | |
|------------------------------|--------------|
| Current Approved Amount | \$918,017.47 |
| Net Approved COs | \$536,371.81 |
| Remaining After Approved COs | \$381,645.66 |
| Net All COs | \$629,005.18 |
| Remaining After All COs | \$289,012.29 |

This Requested Change Order Amount \$5,639.37

+/-

Change In A/E Fee This Change Order \$307.35

+/-

Change In CM Fee This Change Order \$109.97

+/-

Remaining Construction Contingency

Balance

Contract Change Requested By Architect/Engineer; Construction Manager; Local Board of Education

Contract Change Reason Code Improved Plans/Specs

Change Order Description And Justification

Additional cost to upgrade the data cabling to the owner preferred Genspeed cable per the attached submittal.

Cost Benefit To Owner

Contract unit prices have been utilized No
 to support the cost associated with this

change order.

Detailed Cost Breakdown

Contract unit prices have not been utilized, provide a detailed cost breakdown which separates labor, material, profit and overhead.

| Detail Item | Amount | Percent of Total |
|---|------------|------------------|
| Labor | | 0.00% |
| Materials | \$5,639.37 | 100.00% |
| Profit and Overhead | | 0.00% |
| Bond Insurance | | 0.00% |
| Cost Breakdown Total: | \$5,639.37 | |
| Cost for this Change Order supported by an alternate bid or competitive price quote | | |
| Explain Why | | |

**Change Order Supplemental Information Form Signature
Page (Online Form Ref# 55998)**

| | |
|--|---------------|
| _____ Architect | _____ Date |
| _____ Construction Manager | _____ Date |
| _____ Finance Officer | _____ Date |
| _____ Local Board of Education Designee | _____ Date |



AIA[®] Document G701/CMa[™] – 1992

Change Order - Construction Manager-Adviser Edition

OWNER ☒
 CONSTRUCTION MANAGER ☐
 ARCHITECT ☐
 CONTRACTOR ☐
 FIELD ☐
 OTHER ☐

PROJECT (Name and address):
 JEFFERSON ELEMENTARY SCHOOL
 800 SOUTH ALVES STREET
 HENDERSON KY 42420

CHANGE ORDER NUMBER: 18-2
INITIATION DATE: 1/27/2022

TO CONTRACTOR (Name and address):
 PREMIER ELECTRIC, INC.
 1274 MAXWELL AVENUE
 EVANSVILLE IN 47711

PROJECT NUMBERS: CMA-KDE-000707 / 19-068
CONTRACT DATE: 5/4/2020
CONTRACT FOR: BP #018 ELECTRICAL

THE CONTRACT IS CHANGED AS FOLLOWS:

ADDITIONAL COST TO UPGRADE THE DATA CABLING TO THE OWNER PREFERRED GENSPEED CABLE PER THE ATTACHED SUBMITTAL.

| | |
|--|--------------|
| The original Contract Sum was | \$851,793.00 |
| Net change by previously authorized Change Orders | \$0.00 |
| The Contract Sum prior to this Change Order was | \$851,793.00 |
| The Contract Sum will be increased by this Change Order in the amount of | \$5,639.37 |
| The new Contract Sum including this Change Order will be | \$857,432.37 |

The Contract Time will not be affected.

The date of Substantial Completion as of the date of this Change Order therefore is 11/26/2021

NOT VALID UNTIL SIGNED BY THE CONTRACTOR AND CONSTRUCTION MANAGER.

Codell Construction

CONSTRUCTION MANAGER (Firm Name)

4475 Rockwell Rd., Winchester, KY 40392

ADDRESS

BY (Signature)

(Typed Name)

DATE:

PREMIER ELECTRIC, INC.

CONTRACTOR (Firm Name)

1274 MAXWELL AVENUE EVANSVILLE, IN 47711

ADDRESS

BY (Signature)

(Typed Name)

DATE:

HAFER DESIGN

ARCHITECT (Firm Name)

21 SE THIRD STREET, SUITE 800 EVANSVILLE, IN 47708

ADDRESS

BY (Signature)

(Typed Name)

DATE:

HENDERSON COUNTY BOARD OF EDUCATION

OWNER (Firm Name)

1805 SECOND STREET HENDERSON, KY 42420

ADDRESS

BY (Signature)

(Typed Name)

DATE:

From: [Aimee Robinson](#)
To: [John Hagan Codell](#); [Gordon, Kris - TSC, Director of Technology](#); [erang@haferdesign.com](#); [Chad Wargel](#)
Cc: [David Welker](#); [Dave White](#); [Steve Nellis](#); [Thompson, Chad - BOE, Assistant Superintendent of Teaching and Learning \(Secondary\)](#)
Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals
Date: Wednesday, January 26, 2022 2:32:36 PM

Okay we will need to add sales tax to that amount and it is not marked up it is a pass through. So the actual cost would be \$5,639.37. Thank you.

From: John Hagan Codell <JHCodell@codellconstruction.com>
Sent: Wednesday, January 26, 2022 1:24 PM
To: Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>; Aimee Robinson <aimee@premierelectricinc.us>; erang@haferdesign.com; Chad Wargel <cwargel@haferdesign.com>
Cc: David Welker <DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis <steven@premierelectricinc.us>; Thompson, Chad - BOE, Assistant Superintendent of Teaching and Learning (Secondary) <chad.thompson@henderson.kyschools.us>
Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

For change order work KDE prefers not to alter the original direct purchase order amounts. That means that Premier would need to purchase the additional material and pay the sales tax. That total cost would be a change order to Premier's contract and the DPO with Graybar would remain as is. thanks



John Hagan Codell

Vice President of Operations | **Codell Construction Company**

A: 4475 Rockwell Road Winchester, KY 40391

P: [859.744.2222](tel:859.744.2222) ext. 213 **C:** [859.576.7625](tel:859.576.7625) **F:** [859.744.2225](tel:859.744.2225)

E: jhcodell@codellconstruction.com **W:** codellconstruction.com



From: Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>
Sent: Wednesday, January 26, 2022 2:20 PM
To: Aimee Robinson <aimee@premierelectricinc.us>; erang@haferdesign.com; Chad Wargel <cwargel@haferdesign.com>
Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker <DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis <steven@premierelectricinc.us>; Thompson, Chad - BOE, Assistant Superintendent of Teaching and Learning (Secondary) <chad.thompson@henderson.kyschools.us>
Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

These documents are correct.. It does not matter to me on the additional cost. I understand that we will have the additional cost because of the different cable and have approved that here in writing. I will defer to what the appropriate route is by regulations and guidelines for adjusting cost (adjusted PO, change order, other).

Thanks,

Kris Gordon

Director of Technology
Henderson County Schools, TSC
1715 Second Street
Henderson, KY 42420

kris.gordon@henderson.kyschools.us

(270) 831-5000 Ext. 11214

Direct Phone: (270) 831-8714

www.henderson.kyschools.us



Google for Education
Certified Trainer



The mission of Henderson County Schools is to provide extraordinary educational opportunities for every student.

From: Aimee Robinson <aimee@premierelectricinc.us>

Sent: Wednesday, January 26, 2022 1:04 PM

To: Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>;
erang@haferdesign.com; Chad Wargel <cwargel@haferdesign.com>

Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker
<DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis
<steven@premierelectricinc.us>

Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

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Very sorry I forward the wrong email. Let's try this one again, please see the attached re-submittal. There is an additional cost of \$ 5,320.16 for the GenSpeed cable. Please let me know when ready to proceed. The school did a direct purchase to Graybar would this be a change order or added to the purchase order?

From: Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>

Sent: Tuesday, January 25, 2022 2:37 PM

To: Aimee Robinson <aimee@premierelectricinc.us>; erang@haferdesign.com; Chad Wargel
<cwargel@haferdesign.com>

Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker
<DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis
<steven@premierelectricinc.us>

Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

Per the conversation, Dave and Steve asked if Genspeed cable was acceptable instead of Comscope. I said yes. This paperwork lists Comscope cable and therefore does not match the conversation. Apologies as I am relatively new to this process, but wanting to make sure I didn't miss something.

Thanks,

Kris Gordon

Director of Technology
Henderson County Schools, TSC
1715 Second Street
Henderson, KY 42420

kris.gordon@henderson.kyschools.us

(270) 831-5000 Ext. 11214

Direct Phone: (270) 831-8714

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From: Aimee Robinson <aimee@premierelectricinc.us>

Sent: Tuesday, January 25, 2022 2:33 PM

To: Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>;
erang@haferdesign.com; Chad Wargel <cwargel@haferdesign.com>

Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker
<DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis
<steven@premierelectricinc.us>

Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

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Data submitted is per that conversation, however, previous submittal transmittal asked for a resubmittal. So we are just needing something in writing from yourself/ Hafer approving submittals. So this material order can be released.

From: Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>

Sent: Tuesday, January 25, 2022 1:50 PM

To: Aimee Robinson <aimee@premierelectricinc.us>; erang@haferdesign.com; Chad Wargel
<cwargel@haferdesign.com>

Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker
<DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis
<steven@premierelectricinc.us>

Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

Dave White and Steve Nellis had a question a couple weeks ago regarding Genspeed cable versus Comscope cable because of the Panduit jacks warranty requirements. I'm only asking because of that conversation, Does that need to be adjusted here as well?

Thanks,

Kris Gordon
Director of Technology
Henderson County Schools, TSC

1715 Second Street
Henderson, KY 42420

kris.gordon@henderson.kyschools.us

(270) 831-5000 Ext. 11214

Direct Phone: (270) 831-8714

www.henderson.kyschools.us



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The mission of Henderson County Schools is to provide extraordinary educational opportunities for every student.

From: Aimee Robinson <aimee@premierelectricinc.us>

Sent: Tuesday, January 25, 2022 1:38 PM

To: erang@haferdesign.com; Chad Wargel <cwargel@haferdesign.com>; Gordon, Kris - TSC, Director of Technology <kris.gordon@henderson.kyschools.us>

Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker

<DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis

<steven@premierelectricinc.us>

Subject: RE: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

WARNING: This email originated from outside of Henderson County Schools. Do not click links or open attachments unless you recognize the sender and know the content is safe. - HCS Technology Support

Can we get approval on the Data Submittals? Thank you.

From: Aimee Robinson

Sent: Wednesday, January 19, 2022 11:03 AM

To: 'erang@haferdesign.com' <erang@haferdesign.com>; Chad Wargel <cwargel@haferdesign.com>

Cc: John Hagan Codell <JHCodell@codellconstruction.com>; David Welker

<DWelker@codellconstruction.com>; Dave White <dave@premierelectricinc.us>; Steve Nellis

<steven@premierelectricinc.us>

Subject: Jefferson Elem. (2004038) - Data & Grounding Re-submittals

Please find the attached resubmittal. Thank you.

Aimee Robinson
Manager





1274 Maxwell Avenue • Evansville, Indiana 47711

Phone: (812) 429-1122 • Fax: (812) 424-1605

LETTER OF TRANSMITTAL

| | |
|----------------|---|
| TO: | John Hagan Codell |
| COMPANY: | Codell Construction |
| ADDRESS: | |
| CITY/STATE/ZIP | Winshester, KY 40392-0017 |
| DATE: | |
| JOB #: | 2004038 |
| REFERENCE: | Henderson County - Jefferson Elementary |

WE HAVE ENCLOSED THE FOLLOWING ITEMS:

- ☐ SPECIFICATIONS ☐ SUBMITTAL DRAWINGS ☐ PRINTS ☐ PLANS ☐ SAMPLES
☐ COPY OF LETTER ☒ OTHER: _____

| COPIES | | |
|--------|--------|-------------------|
| | 270500 | Data Re-Submittal |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

THESE ITEMS ARE TRANSMITTED FOR:

- ☒ APPROVAL ☐ APPROVED AS SUBMITTED ☐ RESUBMIT _____ COPIES FOR APPROVAL
☐ YOUR USE ☐ APPROVED AS NOTED ☐ SUBMIT _____ COPIES FOR DISTRIBUTION
☒ AS REQUESTED ☐ RETURNED FOR CORRECTIONS ☐ RETURN _____ CORRECTED PRINTS
☐ FOR REVIEW AND COMMENT ☐ OTHER: _____

REMARKS:

| |
|--|
| |
|--|

COPY TO: _____

SIGNED: _____

jhcodell@codellconstruction.com

Transmitted by email:

DATE:

01/15/2022

GenSPEED® 6 Category 6 Cable

Features And Benefits

- Unique separator design engineered for consistent electrical performance
- Performance guaranteed to 350 MHz
- TRU-Mark® print legend contains footage markings from 1000' to 0'
- Third-party verified for guaranteed performance
- Made in U.S.A.

Applications

- IEEE 802.3: 1000 BASE-T (Gigabit Ethernet), 100 BASE-TX, 10 BASE-T
- ANSI/TIA 854: 1000 BASE-TX
- 155 Mp/s, 1.2 Gb/s ATM
- ANSI X3.263: 100 Mb/s
- IEEE 802.3af DTE Power (PoE)
- IEEE 802.3at for PoE Plus
- Digital Video
- Broadband and Baseband Analog Video

Standard Compliances

- ANSI/TIA 568-C.2
- ANSI/TIA 862 (Building Automation)
- ISO/IEC 11801 Ed. 2.0 (Class E)
- ICEA S-102-700 (Category 6)
- NEC/CEC Type CMR (UL 1666) for Non-Plenum
- NEC/CEC Type CMP (NFPA 262) for Plenum
- RoHS Compliant Directive 2002/95/EC
- UL 444



CONSTRUCTION

Conductors

- 23 AWG solid bare annealed copper

Insulation

- Non-Plenum: Polyolefin
- Plenum: Fluoropolymer/Dual-Layer Polyolefin

Color Code

- Pair 1: Blue-White/Blue
- Pair 2: Orange-White/Orange
- Pair 3: Green-White/Green
- Pair 4: Brown-White/Brown

Separator

- Divider

Rip Cord

- Applied longitudinally under jacket

Jacket

- Non-Plenum: Flame-Retardant PVC
- Plenum: Low-Smoke, Flame-Retardant PVC

PHYSICAL DATA

| | CMR (Non-Plenum) | CMP (Plenum) |
|------------------------------------|------------------|--------------|
| Nominal Cable Diameter (in) | 0.205 | 0.200 |
| Nominal Cable Weight (lbs/1000 ft) | 28 | 28 |
| Minimum Bend Radius (in) | 1.0 | 1.0 |
| Maximum Pulling Force (lbs) | 32 | 32 |
| Temperature Rating (°C) | | |
| Installation: | 0 to +60 | 0 to +60 |
| Operation: | -20 to +75 | -20 to +75 |

PART NUMBERS

Standard packaging: 1000' Pull-Pac® II

| Jacket Color | Pull-Pac® II | | Spool-Pac® | | Spool | |
|--------------|------------------|--------------|------------------|--------------|------------------|--------------|
| | CMR (Non-Plenum) | CMP (Plenum) | CMR (Non-Plenum) | CMP (Plenum) | CMR (Non-Plenum) | CMP (Plenum) |
| Blue | 7133800 | 7131800 | 7133840 | 7131840 | 7133860 | 7131860 |
| White | 7133801 | 7131801 | 7133841 | 7131841 | 7133861 | 7131861 |
| Yellow | 7133802 | 7131802 | 7133842 | 7131842 | 7133862 | 7131862 |
| Gray | 7133803 | 7131803 | 7133843 | 7131843 | 7133863 | 7131863 |
| Red | 7133804 | 7131804 | 7133844 | 7131844 | 7133864 | 7131864 |
| Orange | 7133805 | 7131805 | 7133845 | 7131845 | 7133865 | 7131865 |
| Green | 7133806 | 7131806 | 7133846 | 7131846 | 7133866 | 7131866 |
| Black | 7133807 | 7131807 | 7133847 | 7131847 | 7133867 | 7131867 |
| Pink | 7133808 | 7131808 | 7133848 | 7131848 | 7133868 | 7131868 |
| Purple | 7133809 | 7131809 | 7133859 | 7131859 | 7133869 | 7131869 |

Note: Bulk reels are available as a special request with a maximum allowable length of 3000 feet per reel. Minimum run and lead time may apply.

Non-stock items may be subject to minimum order quantities.

Data subject to change without notice.

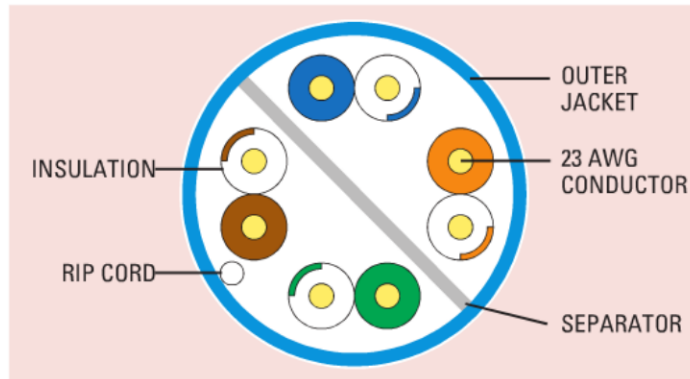
GenSPEED® 6 Electrical Performance

ANSI/TIA 568-C.2

| Frequency MHz | PSACR* (min) | ACR* (min) | Insertion Loss (max) | PSNEXT (min) | NEXT (min) | PSACRF (min) | ACRF (min) | Return Loss (min) | TCL (min) | ELTCTL (min) |
|------------------|-----------------|---------------|-------------------------|-----------------|---------------|-----------------|---------------|----------------------|--------------|-----------------|
| 1 | 70.3 | 72.3 | 2.0 | 72.3 | 74.3 | 64.8 | 67.8 | 20.0 | 40.0 | 35.0 |
| 4 | 59.3 | 61.5 | 3.8 | 63.3 | 65.3 | 52.8 | 55.7 | 23.0 | 40.0 | 23.0 |
| 10 | 51.3 | 53.3 | 6.0 | 57.3 | 59.3 | 44.8 | 47.8 | 25.0 | 40.0 | 15.0 |
| 16 | 46.7 | 48.7 | 7.6 | 54.2 | 56.2 | 40.7 | 43.7 | 25.0 | 38.0 | 10.9 |
| 20 | 44.3 | 46.3 | 8.5 | 52.8 | 54.8 | 38.8 | 41.7 | 25.0 | 37.0 | 9.0 |
| 31.25 | 39.2 | 41.2 | 10.7 | 49.9 | 51.9 | 34.9 | 37.9 | 23.6 | 35.1 | — |
| 62.5 | 29.9 | 32.0 | 15.4 | 45.4 | 47.4 | 28.9 | 31.8 | 21.5 | 32.0 | — |
| 100 | 22.5 | 24.5 | 19.8 | 42.3 | 44.3 | 24.8 | 27.8 | 20.1 | 30.0 | — |
| 150 | 14.9 | 16.9 | 24.7 | 39.7 | 41.7 | 21.3 | 24.3 | 18.9 | 28.2 | — |
| 200 | 8.8 | 10.8 | 29.0 | 37.8 | 39.8 | 18.8 | 21.8 | 18.0 | 27.0 | — |
| 250 | 3.5 | 5.5 | 32.8 | 36.3 | 38.3 | 16.8 | 19.8 | 17.3 | 26.0 | — |
| 350 | — | — | 39.8 | 34.1 | 36.1 | 13.9 | 16.9 | 16.3 | — | — |
| 400 | — | — | 43.0 | 33.3 | 35.3 | 12.8 | 15.8 | 15.9 | — | — |
| 500 | — | — | 48.9 | 31.8 | 33.8 | 10.8 | 13.8 | 15.2 | — | — |

Note: Values are expressed in dB per 100 m (328 ft.) length @ 20°C. Results beyond 350 MHz are for reference only.
*PSACR & ACR not specified in ANSI/TIA 568-C.2

GenSPEED® 6 CATEGORY 6 CROSS-SECTION



ELECTRICAL CHARACTERISTICS

| | |
|---|--------------------|
| DC Resistance (max) Ohms/100 m (328 ft) @ 20°C | 8.9 |
| DC Resistance Unbalance (max) Individual Pair % | 3.0 |
| Delay Skew (max) ns/100 m | 45 |
| Nom. Velocity of Propagation % Speed of Light | CMP: 70 CMR: 68 |
| Characteristic Impedance Frequency (f): 1-350 MHz | Ohms 100 ± 15 |

NetKey® Category 6 Punchdown Jack Modules

PANDUIT®

DATA SHEET

specifications

Category 6/Class E, 8-position keystone jack module terminates unshielded twisted 4-pair, 22 – 26 AWG, 100 ohm cable. Punchdown tool properly terminates each conductor for optimum performance. Universal label is color-coded T568A and T568B wiring schemes.



technical information

| | |
|--|--|
| Category 6/Class E channel and component performance: | Exceeds ANSI/TIA-568-C.2 Category 6 and ISO 11801 Class E channel requirements at swept frequencies up to 250 MHz Exceeds ANSI/TIA-568-C.2 and ISO 11801 Category 6 component requirements at swept frequencies up to 250 MHz |
| FCC and ANSI compliance: | Meets with ANSI/TIA-1096-A; contacts plated with 50 microinches of gold for superior performance |
| IEC compliance: | Meets IEC 60603-7 and IEC 60512-99-001 |
| PoE compliance: | Rated for 2500 cycles with IEEE 802.3af/802.3at and proposed 802.3bt type 3 and type 4 |
| Safety compliance: | cULus Listed; UL 1863 and CAN/CSA-C22.2 (UL File E129886) |
| Operating temperature: | -10°C to 65°C (14°F to 149°F) |
| RoHS compliance: | Compliant |

key features and benefits

| | |
|---|---|
| 100% performance tested | Confidence that each jack module delivers the specified performance |
| 110 style punchdown termination | Utilizes industry standard termination style and includes a wire retention cap |
| Modular | Universal keystone jack modules snap in and out of all NetKey® Faceplates, Modular Patch Panels, and Surface Mount Boxes for fast moves, adds, and changes |
| Individually serialized | Marked with quality control number for traceability |
| Convenience packaging (optional) | 25 jacks packaged in one easy to open container, eliminating the time to open each individual package and reducing on-site waste; ideal for high volume installations |

applications

Applications include:

- Ethernet 10BASE-T, 100BASE-T (Fast Ethernet), and 1000BASE-T (Gigabit Ethernet)
- 155 Mb/s ATM, 622 Mb/s ATM, 1.2 Gb/s ATM
- Token Ring 4/16
- Voice over internet protocol (VoIP)

NetKey® Network Components

NetKey® Category 6 Jack Modules

| | |
|--|-----------|
| Module: | NK688M* |
| Convenience pack of 25 modules: | NK688M*-Q |

NetKey® Category 6 Patch Cords

| | |
|-----------------------|-----------|
| Foot lengths: | NK6PC3**Y |
| Meter lengths: | NK6PC1M^Y |

NetKey® Modular Patch Panels

| | |
|-----------------------|---------|
| 24-port, 1 RU: | NKPP24P |
| 48-port, 2 RU: | NKPP48P |

Termination and Cable Prep Tools

| | |
|--|------------|
| Punchdown tool: | PDT110‡ |
| Punchdown base: | NKSPB |
| JackRapid⁺ Termination Tool: | JR-PAN-2‡‡ |
| Cable stripping tool: | CWST |
| Cable stripping tool: | CJAST |

*To designate a color, add suffix IW (Off White), EI (Electric Ivory), IG (Int'l Gray), WH (White), BL (Black), OR (Orange), RD (Red), BU (Blue), GR (Green) or YL (Yellow).

**For standard lengths other than 3 feet (5, 7, 10, 14 or 20) change the length designation in part number to the desired length. For standard cable colors other than Off White, add suffix BU (Blue), GR (Green), RD (Red) or YL (Yellow) before the Y at the end of the part number. For example, the part number for a blue 5 foot patch cord is NK6PC5BUY.

^For standard lengths other than 1 meter (2, 3, 4 or 5) change the length designation in part number to the desired length. For standard cable colors other than Off White, add suffix BU (Blue), GR (Green), RD (Red) or YL (Yellow) before the Y at the end of the part number. For example, the part number for a blue 5 meter patch cord is NK6PC5MBUY.

‡Terminates the NetKey® Keystone Punchdown Jack Module and NetKey® Patch Panel.

‡‡Terminates the NetKey® Keystone Punchdown Jack Module. Fluke JackRapid Termination Tool available through distribution. To locate the local office, visit www.flukenetworks.com/contact.

+JackRapid is a trademark of Fluke Networks.

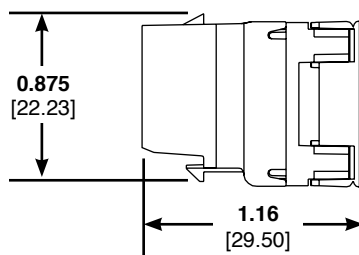
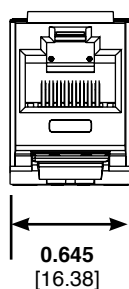
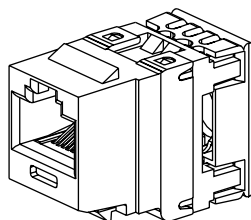
NetKey® Category 6 Punchdown Jack Modules

Test Results

| Mechanical Test | Test Method | Measurement | Typical Test Results |
|--------------------|-------------|-----------------------------------|----------------------|
| Normal | — | Load (grams) | > 100 |
| Vibration | IEC 512-6d | Circuit Resistance (mOhms) | < 40 |
| Shock | IEC 512-6c | Contact Disturbance (microsecond) | < 5 |
| Durability | IEC 512-6a | Circuit Resistance (mOhms) | < 20 |
| Mating/Un-mating | IEC 512-6b | Mating Force (N) | < 20 |
| | | Un-mating Force (N) | < 20 |
| Termination Cycles | IEC 352 | Number of Cycles | > 20 |
| Mating Cycles | IEC 60603-7 | Number of Plug Insertions | > 2500 |

| Electrical Test | Test Method | Measurement | Typical Test Results |
|------------------------------|-------------|--------------------|----------------------|
| Low Level Circuit Resistance | IEC 512-2a | Resistance (mOhms) | < 20 |
| Dielectric Withstand Voltage | IEC 512-4a | 1000 V, 1 minute | Passed |
| Insulation Resistance | IEC 512-3a | Resistance (mOhms) | > 500 |

| Mechanical Test | Test Method | Measurement | Typical Test Results |
|-----------------------------|-------------|----------------------------|----------------------|
| Temperature Life | IEC 512-9b | Circuit Resistance (mOhms) | < 40 |
| Humidity | IEC 512-11c | Circuit Resistance (mOhms) | < 40 |
| Thermal Shock | IEC 512-11d | Circuit Resistance (mOhms) | < 40 |
| Climatic Sequence | IEC 512-11a | Circuit Resistance (mOhms) | < 40 |
| Flowing Mixed Gas Corrosion | IEC 512-11g | Circuit Resistance (mOhms) | < 40 |



Dimensions are in inches [Dimensions in brackets are metric]

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NKDS28--WW-ENG
2016-09-26

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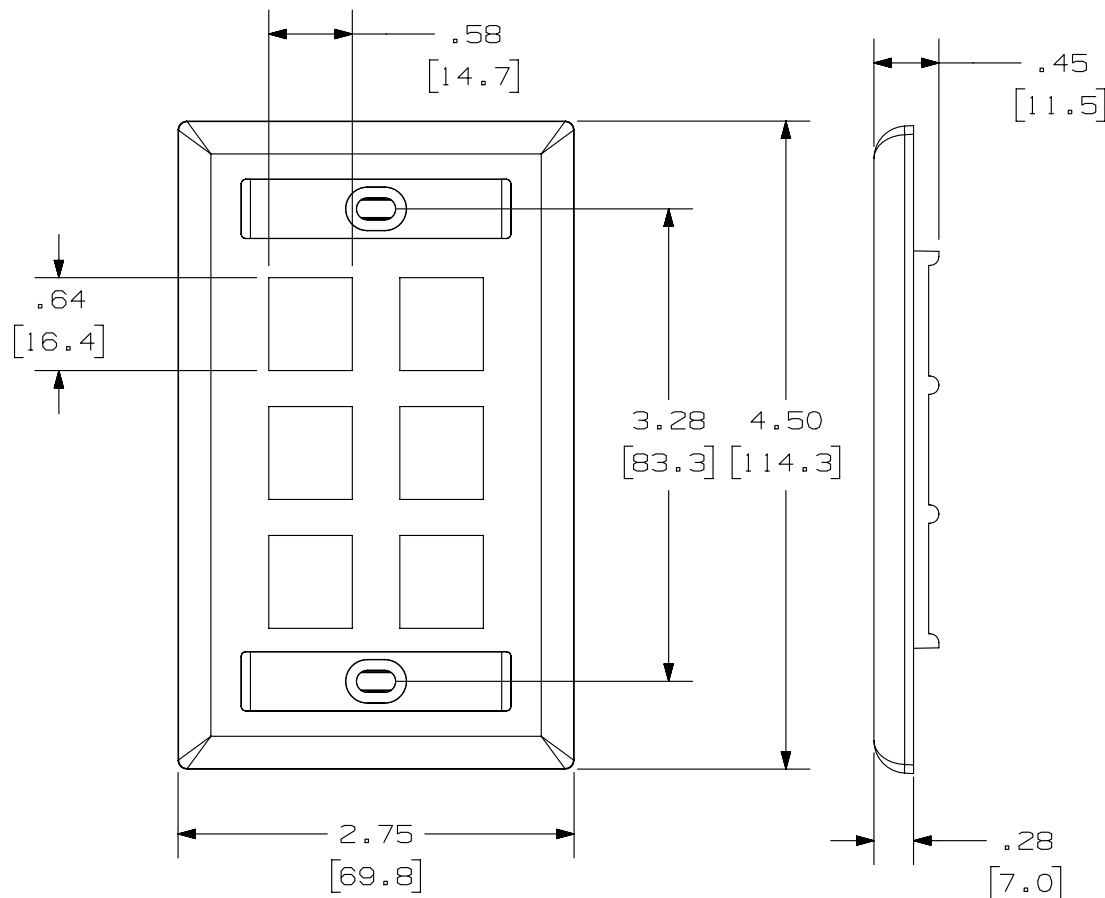
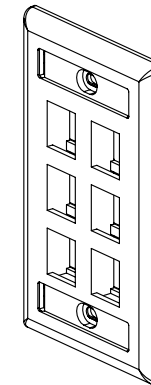
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| PANDUIT P/N | WEIGHT |
|-------------|---------------------------------|
| NK6F**Y | .52 LB/10 PCS (234 g/10 PCS) |

NOTES:

1. SEE CURRENT CATALOG FOR ADDITIONAL PART SUFFIXES TO INDICATE COLOR AND OR PACKAGE QUANTITY.
2. FACEPLATE WILL ACCEPT SIX STANDARD NETKEY MODULES.
3. PART INCLUDES:
 - 1- FACEPLATE
 - 2- MOUNTING SCREW
 - 2- LABEL
 - 2- LABEL COVER
4. DIMENSIONS IN [] ARE IN METRIC.



A

| | | | |
|---|---------|--|-------|
| PART NUMBER | | NK6F**Y | |
| TITLE | | NETKEY 6 POSITION SINGLE GANG FACEPLATE WITH LABEL | |
| ITEM REVISION NAME | | CUSTOMER DRAWING | |
| DATASET FILE NAME | | M02479BH/02 | |
| DATASET FILE NAME | | M02479BH_DC034/00B | |
| UNLESS OTHERWISE SPECIFIED, DIMENSIONAL TOLERANCES ARE: IN [mm] | | MATERIAL: | |
| .X ± .XX ± .03 [.8] | | ABS | |
| .XXX ± .010 [.3] | | DRAWING NUMBER: | |
| ANGLES ± | | 02479-034 | |
| THIRD ANGLE PROJECTION | | SHT 1 OF 1 | |
| DRAWN BY | DATE | CHK | SCALE |
| JSP | 12-3-01 | REFR | NONE |
| DESCRIPTION | | SIZE | |
| A. UPDATED TITLE BLOCK. | | A | |
| RELEASED TO PRODUCTION | | | |

B

←

A

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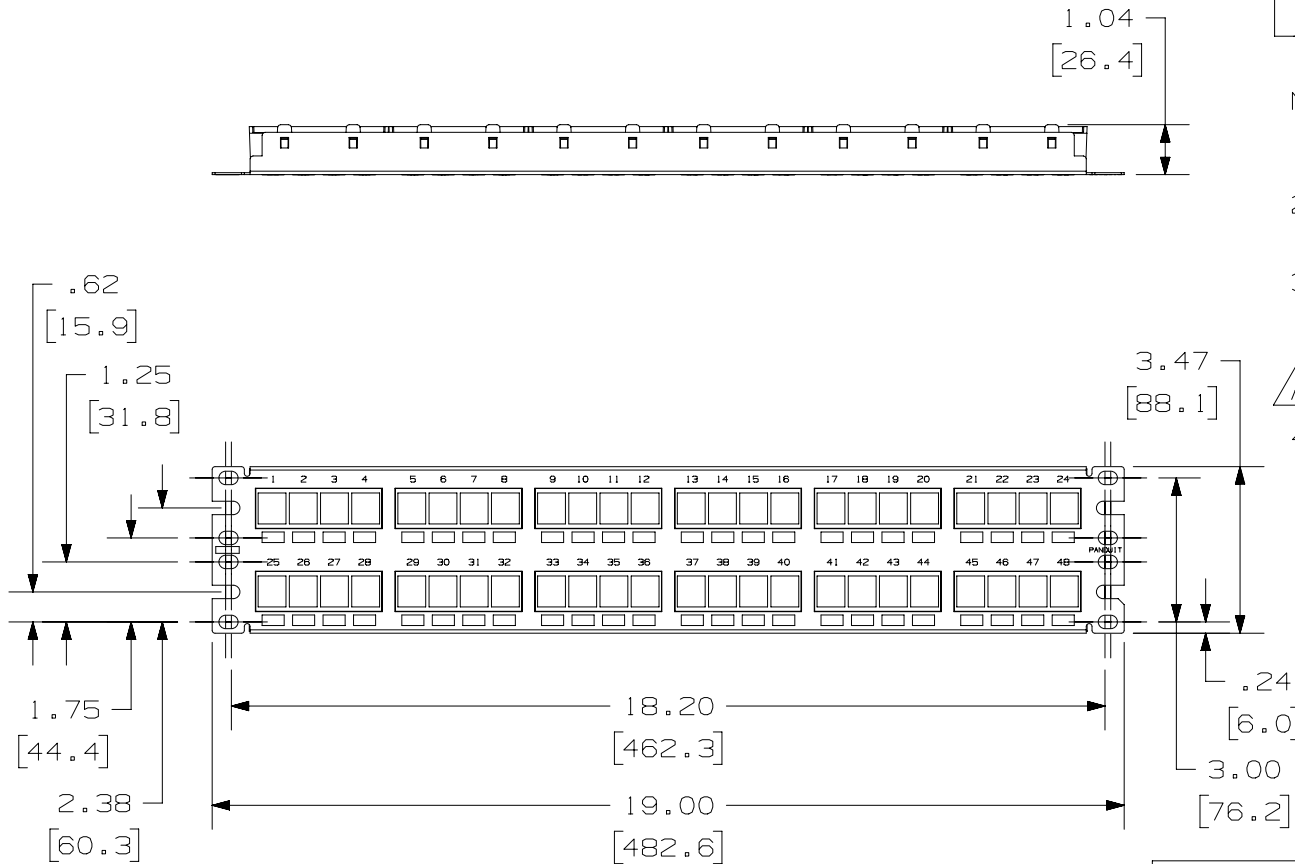
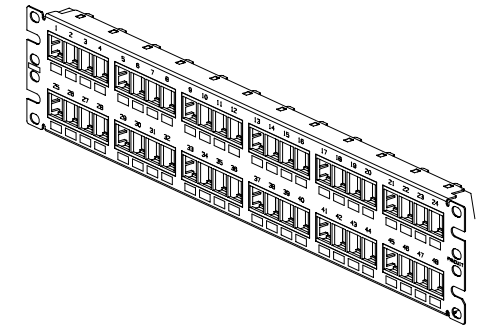
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| PANDUIT P/N | WEIGHT |
|-------------|-------------------------------------|
| NKPP48FMY | 11.3 LB/10 PCS (5128.7 g/10 PCS) |


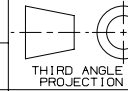
NOTES:

- SEE CURRENT CATALOG FOR VARIOUS APPLICATIONS WITH THIS WIRING SYSTEM.
- THE FLUSH MOUNT PATCH PANEL IS DESIGNED FOR MOUNTING TO 19" UNIVERSAL RACKS.
- PACKAGE CONTENTS:
 - 48 PORT STAMPING
 - 8 POSITION FACEPLATE (ASSEMBLED TO PANEL)
 - SCREW KIT (INCLUDES FOUR #12-24 SCREWS)
- DIMENSIONS IN PARENTHESIS ARE IN METRIC.



| | | |
|------------------|-----------------------|------|
| MODEL FILENAME | M02479DS/02.PRT | SIZE |
| DRAWING FILENAME | M02479DS_DC99_02A.PRT | A |

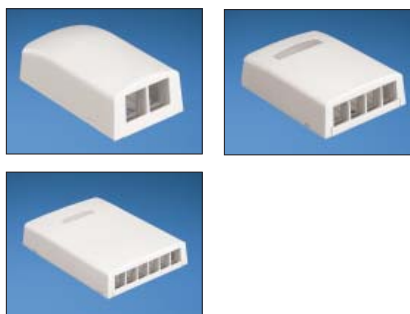
NETKEY 48 PORT FLUSH MOUNT
MODULAR PATCH PANEL CUSTOMER DRAWING

| | | | |
|--|------------------|--|---|
|  PANDUIT TM CORP. TINLEY PARK, ILL 60477 | I.T. NUMBER | | N/A |
| | PRODUCT SPEC | | N/A |
| | WORK INSTRUCTION | | N/A |
| | SCALE | | NONE |
|  THIRD ANGLE PROJECTION | PART NO. | | NKPP48FMY |
| | DRAWING NO. | | 02479-099 |
| | MATERIAL: | | PANEL: 20 GAGE C.R.S. FACEPLATE: ABS |

| REV | DATE | BY | CHK | DESCRIPTION | ECN | R | CUST | SUP | OTH |
|-----|---------|------|------|--------------------------|-----------|---|------|-----|-----|
| 1 | 11-8-18 | BAME | KRKE | A. REMOVED METRIC SCREWS | 02479-099 | | MMR | | |
| R | 4-19-06 | JsP | | RELEASED TO PRODUCTION | 02479-099 | | | | |

NetKey™ Surface Mount Boxes

Surface mount boxes shall have a low profile design and shall be available in a variety of port densities. Boxes shall accept all NetKey™ Keystone Modules for fiber, copper, and audio/video applications. The boxes shall mount with screws, adhesive, or optional magnets and shall include breakouts for use with surface raceway. Cable tie slots shall be included to provide strain relief on incoming cables.



NetKey™ Surface Mount Boxes*

| | |
|----------------|------------|
| 2-port: | NK2BXIW-A |
| 4-port: | NK4BXIW-AY |
| 6-port: | NK6BXIW-AY |

Accessories

| | |
|-------------------------------|----------|
| Screw cover: | CSC*-X |
| Label/label cover kit: | CSGLLC-L |
| Magnet: | CBM-X |

*For standard colors other than IW (Off White), replace suffix with EI (Electric Ivory), WH (White), IG (International Gray), or BL (Black).

technical information

| | |
|--------------------------|--|
| Mounting options: | Mounts easily with screws, adhesive tape, or optional magnet |
| Material: | Box is made of ABS |

key features and benefits

| | |
|--------------------------------|--|
| Modular | Accepts all NetKey™ Keystone Modules which snap in and out for easy moves, adds, and changes |
| Low profile design | Presents a more discreet or inconspicuous look |
| Raceway breakouts | Compatible with specific surface raceway, conceals cable entering the box |
| Cover screw | Select boxes provide a screw that secures the cover to the base |
| Labels and label covers | Select boxes include a label pocket to meet TIA/EIA-606B labeling standards |
| Magnet pockets | Accept magnets for mounting on metal surfaces; NK2BX*-A, NK4BX*-AY |

| Part Number | Compatible Raceway | No. of Adhesive Strips | No. of Cable Ties | Label/Label Cover Included | Mounting Screws Included | Magnet Pockets |
|-------------|-----------------------------------|------------------------|-------------------|----------------------------|--------------------------|----------------|
| NK2BX | LD3, LDP3, LD5, LDP5 | 1 | 1 | No | Yes | 1 |
| NK4BX | LD3, LDP3, LD5, LDP5, LD10, LDP10 | 2 | 2 | Yes | Yes | 2 |
| NK6BX | LD3, LDP3, LD5, LDP5, LD10, LDP10 | 2 | 2 | Yes | Yes | None |

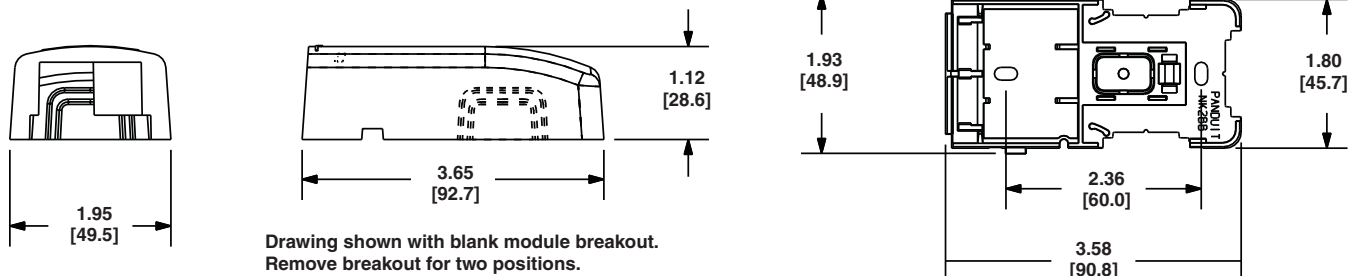
applications

NetKey™ Surface Mount Boxes offer a variety of mounting options, allowing NetKey™ Keystone Modules to be mounted on a variety of surfaces, such as standard walls, metal surfaces, office furniture, etc. Surface mount

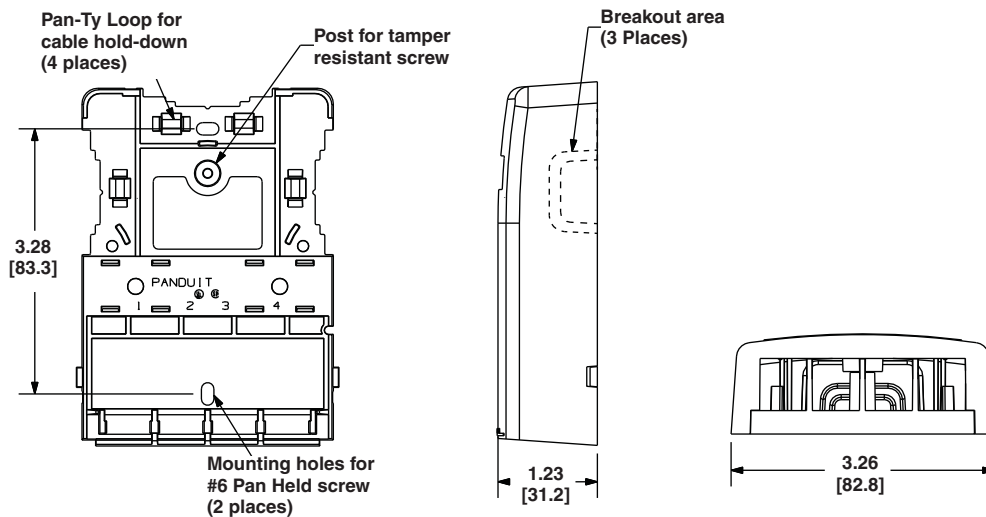
boxes include breakouts compatible with Panduit's Surface Raceway system to conceal and allow cable to run into the box providing a point of connection for voice, video, and data applications.

NetKey™ Surface Mount Boxes

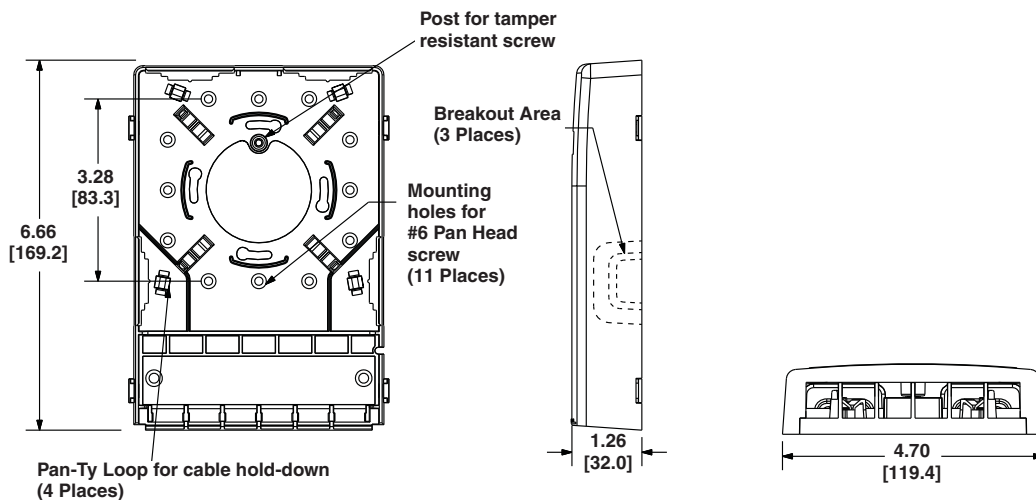
2-Port Surface Mount Box NK2BXIW-A



4-Port Surface Mount Box NK4BXIW-AY



6-Port Surface Mount Box NK6BXIW-AY



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