



Choices – Decisions!

iNS

2 Wire & 3 Wire Systems

Note: There is a 3 Wire only version available “iNS3” Ped Head based system. It Will not operate as a 2 Wire with PLC communication.

The “iNS2” PBS can be either 2 or 3 wire – has PLC chip for advanced intersection communication.



Polara has an **iNS Order/Configuration Form** (example pasted below), available on the Polara website under **iNS section**. The form is a configurable drop-down menu pdf form that will help formulate Model Numbers for Push Button Stations & the most commonly/used associated Hardware. **This guide is a pictorial guide.**

iNS Push Button Station Configuration/Order Form

Reset PBS Form

Note: iNS2 is the standard push button configuration that can operate as either a 2-Wire Central System or as a 3-Wire Ped Head System. iNS3 is a Ped Head System only.

MODEL
iNS2 = Push Button Station (PBS) - Operates as either a 2 or 3-Wire System
iNS3 = Push Button Station (PBS) - Operates only as a 3-Wire (Ped Head System)

CHOICE

SIZE
5 = 5" x 7 1/4" Sign Size
9 = 9" x 12" Sign Size†
3 = 9" x 15" Sign Size†
8 = 9" x 18" Sign Size†

CHOICE

SIGN
0 = No Sign (-\$5.00 price reduction)
A = Option A (Informational Walking Sign, Black on White) 5x7 Only
B = Option B (Informational Sign) 5x7 Only
C = Option C (Countdown Sign) 9x12 Only
D = Option D (International Walking Sign, White on Black) 5x7 & 9x12 Only
V = Option V (Hi-Intensity Retroreflective MUTCD R10-3) 9x12 Only†
U = Option U (Hi-Intensity Retroreflective MUTCD R10-3b) 9x12 Only†
N = Option N (Hi-Intensity Retroreflective, Anti Graffiti (MUTCD R10-3e) 9x12 Only†
T = Option T (Hi-Intensity Retroreflective MUTCD R10-3e) 9x15 & 9x18 Only†
M = Option M (Diamond Grade Retroreflective MDOT) 5x7 & 9x15 Only†

CHOICE

BRAILLE
N = No Braille
B = Braille Text† (Provide details on page 3)

CHOICE

SPECIAL VOICE MESSAGE
0 = Standard Messages
1 = Special Voice Messages† (Provide details on page 3)

CHOICE

COLOR OF FRONT COVER
B = Black
G = Green
Y = Yellow

CHOICE

Orderable iNS PBS Part Number

Total Qty of PBSs:

SPECIAL DESIGNATORS†
The following additional options are available. Check any options desired.
 -BD for Bi-Directional (double) Arrow
 -NA for No Arrow
 -ES for External Speaker option
 -CT for Custom Vinyl Text Street Name on Sign

*** Special Voice Message Delivery Options:**

Special Message E-Mail Delivery (No Charge) Qty:

E-mail Address for Delivery:

Special Message Recording per Crossing† Qty:

Special Message Flash Drive† Qty:

Special Message Installed on PBS† Qty:

† Additional charges apply for these options.

iNS Hardware Order/Configuration Form

Reset Hardware Form

Do you want a 2-Wire, Central Control System?
(Requires 2 button wires to each button on the pole. A Central Control Unit resides in the cabinet and provides power and data to the push button stations via the 2 button wires. Please check button and hardware quantities as this form is only intended as a general guide to assist in determining unique items needed for an iNS system.)

Do you want a 3-Wire, Ped Head based System?
One system, nothing in traffic cabinet – no central communication). The push button station receives power and Ped Interval timing from a Ped Head Control Unit. Great for pre-timed/non-actuated systems without button wires. Each push button comes with terminals for button call wires to place calls.)

| CHOICE | NEXT STEP |
|--|--|
| 1. What is the type of controller/cabinet? | <input type="text"/> <input type="text"/> |

2-Wire Questions (Central Control System)

Options To Order (2-Wire Systems)

A. (1) iCCU-S2, (1) ACCP This Option "A" ACCP = Any Cabinet Cable Package configuration is designed to work with all cabinet styles.

B. (1) iCCU-S2, (1) SDLCCP This Option "B" SDLCCP = SDLC Cable Package configuration is designed to work with TS2 controllers/cabinets.

C. (1) iCCU-C2, (1) iN2-ICB-C, (1) iN2-C4CABLE-C, (1) iN2-150WPS-C

Description of Each Part Number (2-Wire Systems)

| | |
|--|--|
| iCCU-S2 | Shelf mount Control Unit. Standard/BIU Mode (Includes Power Cord, BTN-PLC-CABLE) |
| ACCP | Any Cabinet Cable Package (Includes Interconnect Board, Cable A & Cable C) |
| SDLCCP | SDLC Cable Package (Incl: Interconnect Board, "Y" Splitter SDLC Cable, Cable C & Cable A (backup)) |
| iN2-ICB | Interconnect Board for use with iCCU-S2 |
| BTN-PLC-CABLE | 2-Wire PLC Cable that connects to front terminal block of iCCU-S2 and goes to the iN2-ICB. One (1) is supplied with every iCCU-S2. |
| 811-222 | Cable A - Cabinet Load Switch Outputs (Ped Interval Timing) |
| 811-223 | Cable B - Preemption Inputs (EV 1,2,3,4) ^{Note1} |
| 811-224 | Cable C - Cabinet Ped Call Inputs (Channels ABCD) |
| 811-225 | Cable D - General Purpose Inputs (1,2,3) ^{Note1} |
| iN2-SDLC-YCABLE | SDLC "Y" Cable (Splitter Type) |
| iN2-SDLC-CABLE | SDLC Cable (Straight Type) |
| Note1: If Preemption is needed, add (1) Cable B (811-223) to your order. If you need General Purpose Inputs, add one (1) Cable D (811-225) to your order. | |
| iCCU-C2 | Rack mount 300 series Control Unit with C4-Y cable (splitter) |
| iN2-ICB-C | Interconnect Board for use with iCCU-C2 |
| iN2-C4CABLE-C | C4-Y Cable for use with iCCU-C2 |
| iN2-150WPS-C | 150W, 24VDC Supplemental Power Supply (iCCU-C2 Only) |

3-Wire Questions (Ped Head System)

1. How many Push Button Stations (PBS)?

iPHCU3S (Ped Head Control Unit. One per PBS required)

A 3-conductor cable is needed for each installed iPHCU3S to connect it to the Push Button Station. Because the distance from the Push Button location to the corresponding PED Head can vary for each Push Button location, you may need different lengths on an intersection. Polara offers 3 different lengths. Select the proper length for each iPHCU3S you order (Qty of cables should equal number of PBSs/iPHCU3S):

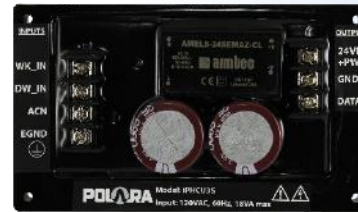
| | | | |
|--------------|----------------|-------------------------|----------------------|
| iN3-CABLE-12 | 12 foot length | Qty Needed | <input type="text"/> |
| iN3-CABLE-25 | 25 foot length | Qty Needed | <input type="text"/> |
| iN3-CABLE-50 | 50 foot length | Qty Needed | <input type="text"/> |
| | | Total Cables | <input type="text"/> |
| | | Remaining Cables Needed | <input type="text"/> |

iNS_ORDER-CONFIG-FORM_P2 12/09/2019 BCB



iNS or iNS3 (3 Wire Ordering)

1. Use **iNS Order/Configuration Form** to order **Push Button Station** (This will formulate exact model number, including sign sizing)
2. Order **Ped Head Control Unit (iPHCU3S)** 1 per button



1. Order **3 Wire Cable 1 per button**

(You can use/supply own cable. See Polara website under iN3, Accessories, 3 Wire cable for specifications)

Ordering Part Numbers:

| | |
|---------------|----------------|
| iN3-CABLE-12: | 12' long cable |
| iN3-CABLE-25: | 25' long cable |
| iN3-CABLE-50: | 50' long cable |



Additional Optional Items – **Mounting Adapters, Dongle, iN Set Up Box**



Programming Options – Apps & Program are Free!



iOS (Apple)

- iPhone
- iPad & iPad Mini
- iPod touch



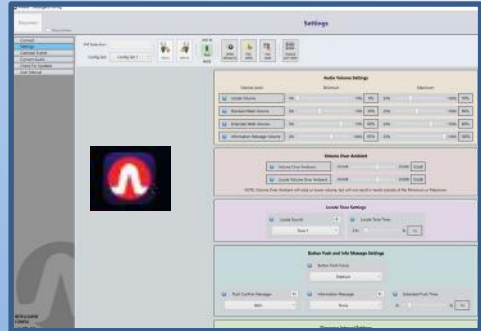
iPod touch

Devices not supplied by Polara



Android

- App for Android supported devices
(Devices not supplied by Polara)



PC App – “Intelligent Config” *(free download from Polara.com)*

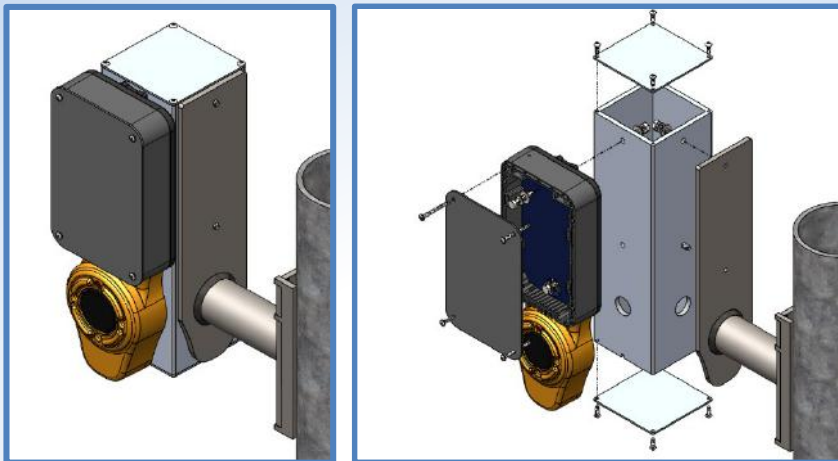
- Windows Laptop or Tablet
- *Polara Bluetooth Dongle Required*



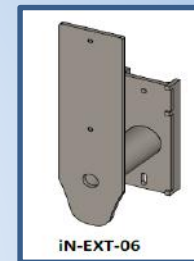
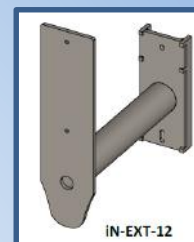
Additional Mounting Options

90 Degree Adapters for mounting iNavigator to left or right

iN-90DEGADPTR



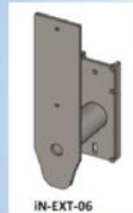
Connects to
**iN 6 or 12
inch
Extenders**



Mounting Extenders & Dual Mount Adapters

Need Extra Reach? Challenges mounting on Decorative poles/Bases?

Extenders provide
6 or 12 Inch
Extension



Angled Mounting
Extenders allow a
5 Inch Height
Reduction

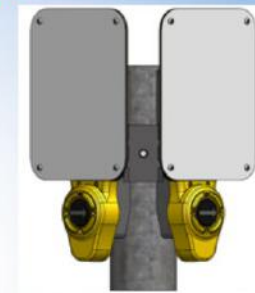


Mounting Extenders provide extra reach or
clearance to mount on Decorative Bases

6 or 12 Inch Extensions Available



**Polara iNavigator Dual Mount
Pole Adapters**

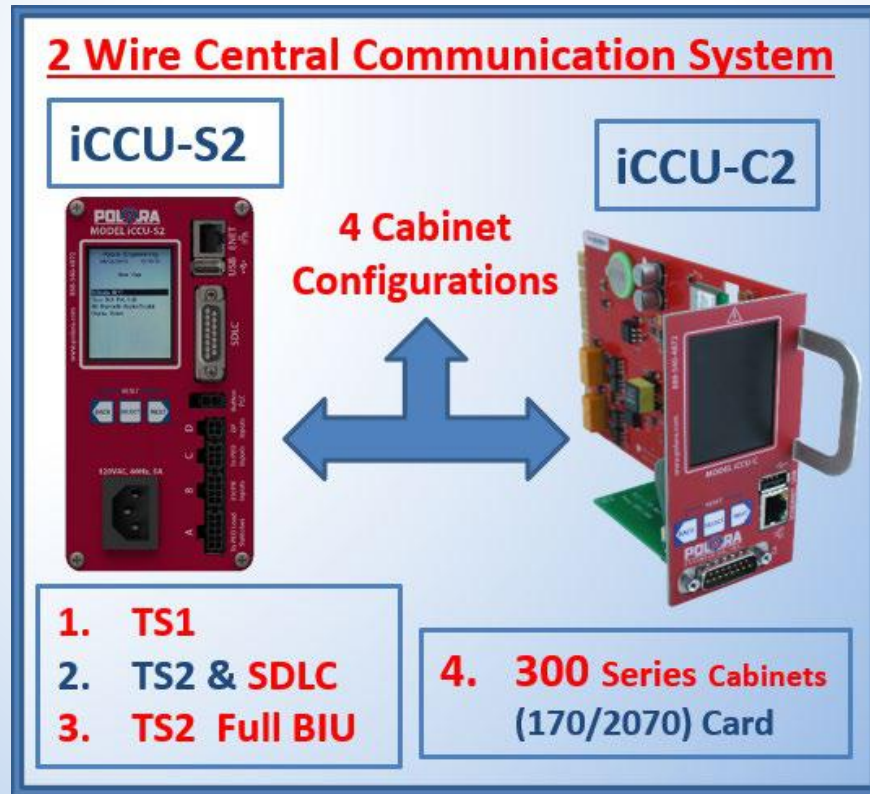


No need to turn Buttons upside down!
Adapters fit Two 9x12/15 Signs on a 2.9" or 4.5" O.D. Pole



iNS (2 Wire Ordering)

1. Use **iNS Order/Configuration Form** to order Push Button Station *(This will formulate exact model number, including sign sizing)*
2. Use **iNS Order/Configuration Form** to assist in Central Control Unit & necessary accessories ordering.



What's New with the **iCCU-S2** (Central Control Unit)?

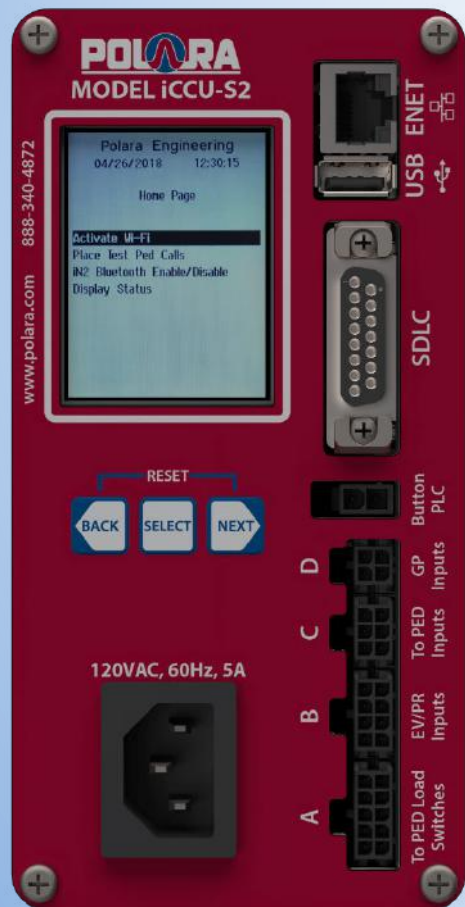
No 50 Pin 4-Cable Harness – Now individual Cables

Buy only what you need!

Typically 2 cables other than Button PLC are needed – Less if SDLC used

iCCU-S2

Improved Transient Protection



iN2-SDLC-YCABLE
"Y" Splitter SDLC cable

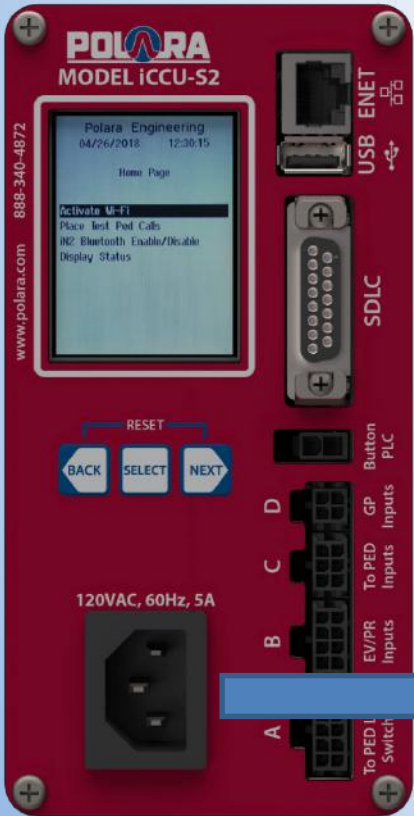
| | |
|----------------------|---|
| BTN-PLC-Cable | 2 Wire PLC – Connects to Interconnect Board – Included w/iCCU-S2 |
| Cable D | General Purpose Inputs (1,2,3) |
| Cable C | To Cabinet Ped Call Inputs (Channels ABCD) |
| Cable B | Preemption Inputs (EV 1,2,3,4) |
| Cable A | To Cabinet Load Switch Outputs (Ped Interval Timing) |

1. Ordering iCCU-S2 Central Control Unit

Buy only what you need!

Typically 2 cables other than Button PLC are needed

iCCU-S2 – Central Control Unit & Includes:



| | |
|----------------------|---|
| BTN-PLC-Cable | 2 Wire PLC – Connects to PLC on Interconnect Board - Included |
| CABLE-C-LG | Special Logic-Ground Cable in <u>C slot</u> (<i>supplied with each iCCU-S2</i>) (allows proper Logic-Grounding when full BIU/SDLC is used) <i>Needed/Used only with SDLC</i> |
| Power Cord | Included |

iCCU-S2 - Decide Cabinet Configuration

Works in TS1 or TS2 (3 Cabinet Configuration Choices)



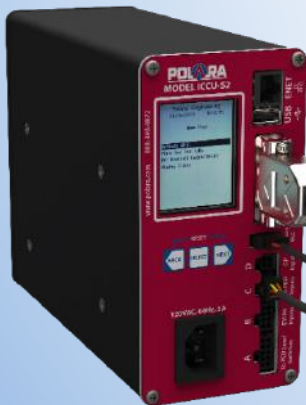
TS1/Any Cabinet Configuration – 3 Cables Needed (ACCP)

- BTN-PLC-Cable – PLC wires to Interconnect board *(included w/iCCUS-2)*
- Cable C – wires to 4 channel Ped Inputs
- Cable A – wires to Load Switch ped interval outputs



TS2 Split Configuration – 2 Cables & SDLC (SDLCCP)

- SDLC – Receives Ped Interval timing from Controller
- BTN-PLC-Cable – PLC wires to Interconnect board *(included w/iCCUS-2)*
- Cable C – wires to 4 channel Ped Inputs



TS2 Configuration – BIU/SDLC only (allows up to 8 phases)

- SDLC - Places Ped Calls to controller via SDLC *(requires controller re-mapping)*
Receives Ped Interval timing from Controller *(no high voltage load switch wiring)*
- BTN-PLC-Cable – PLC wires to Interconnect board *(included w/iCCUS-2)*
- CABLE-C-LG (in C slot) *(supplied with each iCCU-S2)*
(allows proper Logic-Grounding when full BIU/SDLC is used)

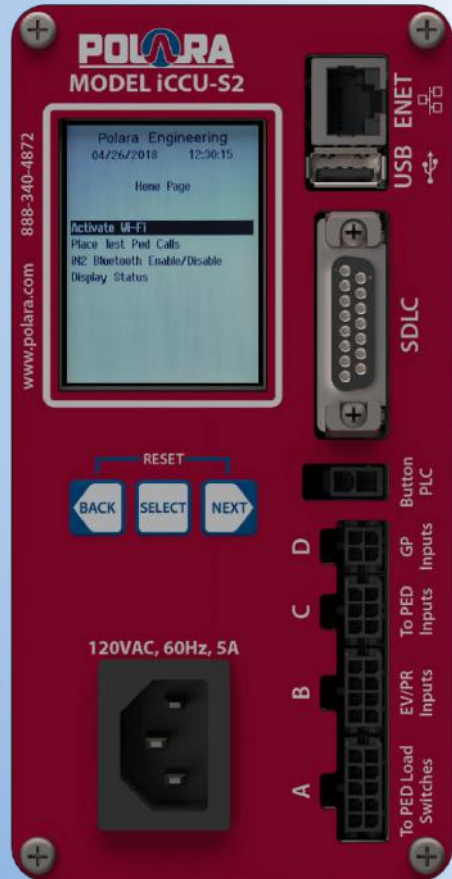
The next two slides show the Easy Ordering options of available **Cable Packages**, or you can order cables/items separately (shown in later slides)

2a. New-Easy Ordering – Cable Packages or Custom!

ACCP (Any Cabinet Cable Package) – Includes:

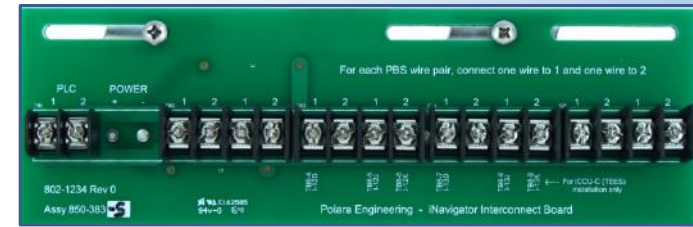
- **iN2-ICB** – Interconnect Board
- **Cable A** - To Cabinet Load Switch Outputs (Ped Interval Timing)
- **Cable C** - To Cabinet Ped Call Inputs (Channels ABCD)

iCCU-S2



ACCP

Designed to work with all cabinet styles



**Interconnect Board iN2-ICB
Included**

| | |
|----------------------|---|
| BTN-PLC-Cable | 2 Wire PLC – Connects to Interconnect Board – Included w/iCCU-S2 |
| Cable C | To Cabinet Ped Call Inputs (Channels ABCD) – Included |
| Cable A | To Cabinet Load Switch Outputs (Ped Interval Timing) - Included |

2b. New-Easy Ordering – Cable Packages or Custom!

SDLCCP (SDLC Cable Package) – Includes:

- **iN2-ICB** – Interconnect Board
- **Cable C** - To Cabinet Ped Call Inputs (Channels ABCD)
- **iN2-SDLC-YCABLE** – “Y” Splitter SDLC cable (works as straight to port as well)
- **Cable A** - To Cabinet Load Switch Outputs (**Back up, not needed if SDLC used**)

SDLCCP

Designed to work in TS2/Hybrids

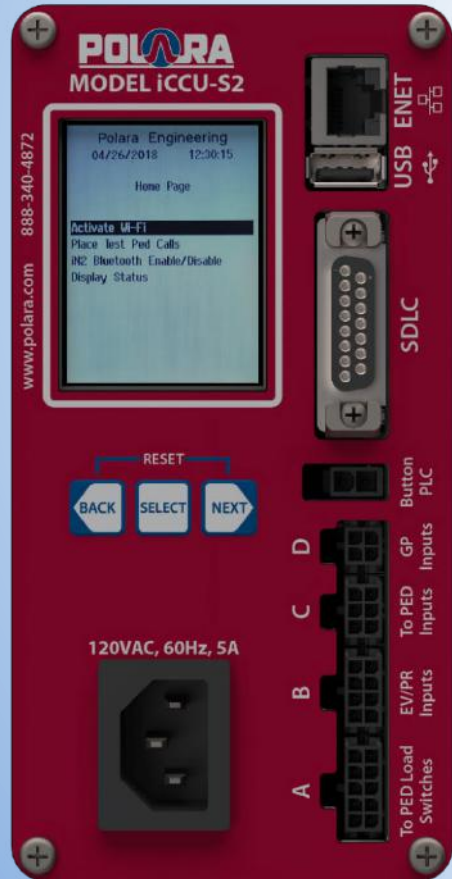


iN2-SDLC-YCABLE
Y” Splitter SDLC cable
Included



Interconnect Board iN2-ICB
Included

| | |
|-------------------------|---|
| Button-PLC-Cable | 2 Wire PLC – Connects to Interconnect Board – Included w/iCCU-S2 |
| Cable C | To Cabinet Ped Call Inputs (Channels ABCD) – Included |
| Cable A | To Cabinet Load Switch Outputs (Ped Interval Timing) – Included but back up, not needed if SDLC used |



iCCU-S2



www.polara.com 888-340-4872

iCCU-S2 2 Wire System TS1 Components

1. **iCCU-S2** – (Shelf Mount unit designed to work in any standard traffic cabinet)

Typically used:

- **BTN-PLC-Cable (included with iCCU-S2)**
 - Cables A (Load Switch Ped Interval outputs), Cable C (Ped Inputs)
2. **iN2-ICB - Interconnect Board (ordered Separately)**



TS1 Configuration – 3 Cables Needed:

- **BTN-PLC-Cable** – PLC wires to Interconnect board
- **Cable C** – wires to 4 channel Ped Inputs
- **Cable A** – wires to Load Switch ped interval outputs

Interconnect Board **iN2-ICB**



Additional optional cables if needed

| | |
|----------------|--------------------------------|
| Cable D | General Purpose Inputs (1,2,3) |
| Cable B | Preemption Inputs (EV 1,2,3,4) |



iCCU-S2 2 Wire System TS2 Components – Hybrid/Split Configuration

1. **iCCU-S2** – (Shelf Mount unit designed to work in any standard traffic cabinet)

Typically used:

2. **BTN-PLC-Cable** (included with iCCU-S2)
3. **Cable C** (Ped Inputs)
3. **iN2-ICB** - Interconnect Board (ordered Separately)
4. **SDLC Cable** – 2 choices 6ft (**iN2-SDLC-CABLE**) or 4ft “Y” Splitter (**iN2-SDLC-YCABLE**)



SDLC – Choose between 2

- TS2 Hybrid Configuration – 2 Cables Needed:**
- **BTN-PLC-Cable** – PLC wires to Interconnect board
 - **Cable C** – wires to 4 channel Ped Inputs

Interconnect Board iN2-ICB



Additional optional cables if needed

| | |
|----------------|--------------------------------|
| Cable D | General Purpose Inputs (1,2,3) |
| Cable B | Preemption Inputs (EV 1,2,3,4) |



iCCU-S2 2 Wire System TS2 Components – Full BIU (All SDLC)

1. **iCCU-S2** – (Shelf Mount unit designed to work in any standard traffic cabinet)

Typically used:

- 2. **BTN-PLC-Cable** (included with iCCU-S2)
- 3. **iN2-ICB** - Interconnect Board (ordered Separately)
- 4. **SDLC Cable** – 2 choices 6ft (**iN2-SDLC-CABLE**) or 4ft “Y” Splitter (**iN2-SDLC-YCABLE**)



iN2-SDLC-CABLE



iN2-SDLC-YCABLE (Y Splitter)



SDLC Cable – Choose between 2

TS1 Configuration – 3 Cables Needed & Included

- **BTN-PLC-CABLE** – PLC wires to Interconnect board

Interconnect Board iN2-ICB



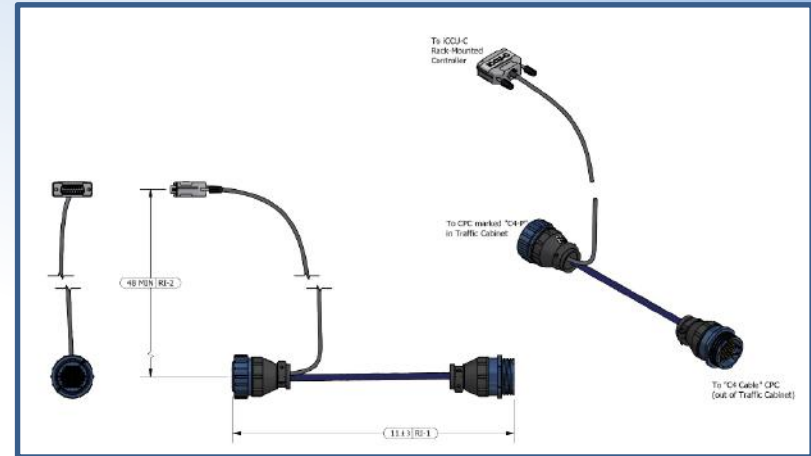
Additional optional cables if needed

| | |
|----------------|--------------------------------|
| Cable D | General Purpose Inputs (1,2,3) |
| Cable B | Preemption Inputs (EV 1,2,3,4) |



iCCU-C2 Card Rack Mount Systems Requirements

1. iCCU-C2
2. C4 Connector Splitter Cable – iN2-C4CABLE-C
3. Interconnect Board – iN2-ICB-C
4. Power Supply – iN2-150WPS-C



C4 Connector iN2-C4-CABLE-C



Power Supply – iN2-150-WPS-C



Interconnect Board iN2-ICB-C