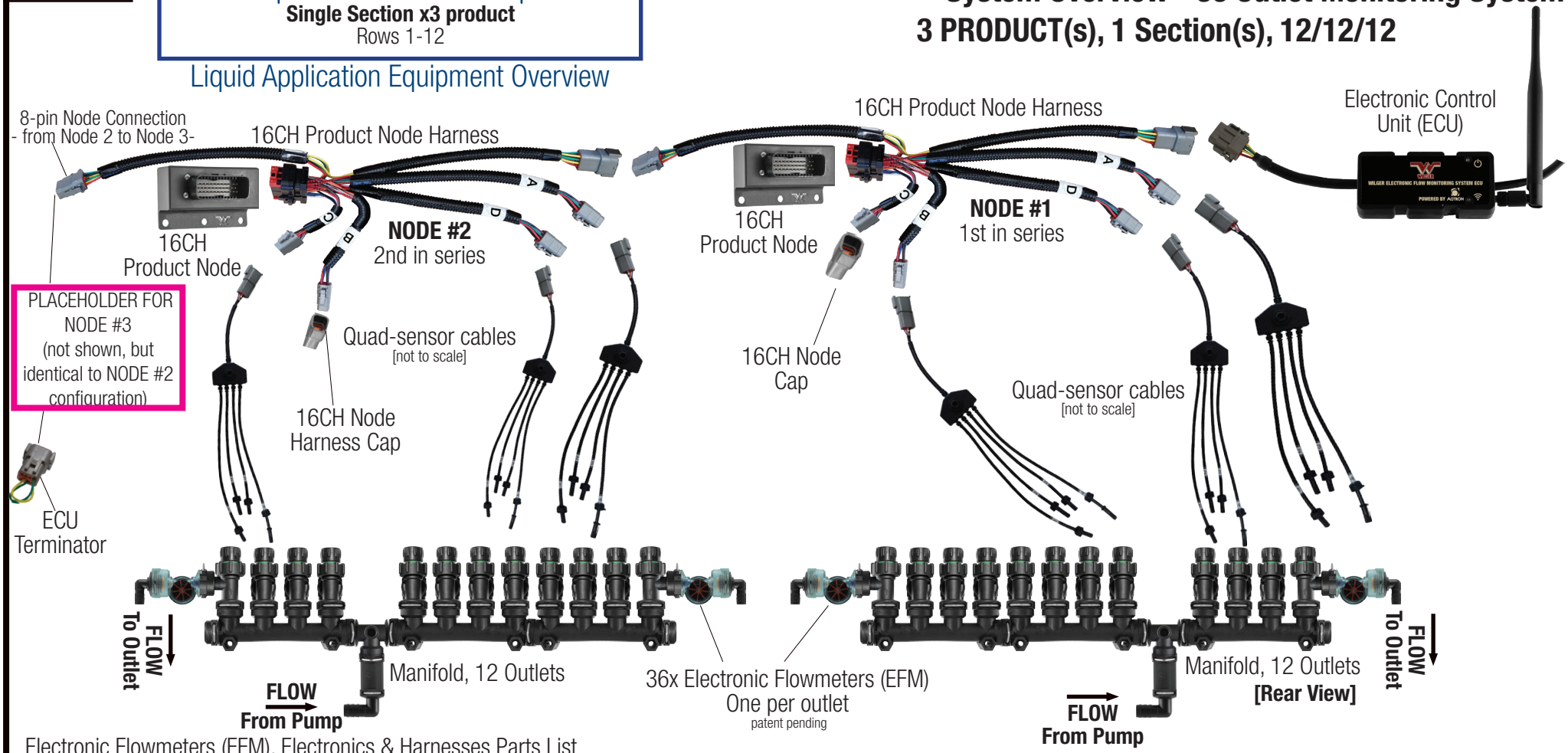
[not to scale]

Single Section x3 product
Rows 1-12

System Overview - 36 Outlet Monitoring System
3 PRODUCT(s), 1 Section(s), 12/12/12

Liquid Application Equipment Overview



Electronic Flowmeters (EFM), Electronics & Harnesses Parts List

Quantity	PART#	Description	Extra Information
1	20603-00	ECU Base Kit	incl. 20' battery harness, terminator, ECU, ECU antenna
3	20621-00	16CH Node KIt	incl. 16CH Node, 16CH Node Harness, 4x Quad-sensor cable
3	20612-00	16CH Node Harness Cap	Used to capping unused 16CH node harness connectors.
as req'd	20615-00	Ext. Harness [NODE to SNR]	6' Extension Harness [6-pin], NODE to QUAD-SENSOR CABLE
as req'd	20616-00	Ext. Harness [NODE to NODE]	12' Extension Harness [8-pin], NODE Harness to NODE Harness

Manifold, Plumbing & Auxiliary Parts List

Quantity	PART#	Description	Extra Information
9	20634-00	4 Outlet EFM Manifold Kit	incl. 4-Outlet manifold, 4 EFM assembly kits (incl. jets), 4x Check Valve
0	20633-00	3 Outlet EFM Manifold Kit	incl. 3-Outlet manifold, 3 EFM assembly kits (incl. jets), 3x Check Valve
3	20576-00	ORS Manifold Strainer	One strainer per Manifold Feed.
6	20521-00	ORS Manifold End-cap	Two used per center-fed manifold.
3	20526-00	ORS TEE w/ 1/4" NPT-F*	*1/4" NPT Port comes sealed; must be drilled out to be used.
3	205**XX**-00	ORS Inlet Fitting	ORS Inlet must be selected from catalog by preference (up to 1").
32	205**XX**-00	ORS Outlet Fitting	ORS Outlet must be selected from catalog by preference.
36	21500-VXX	ORS Metering Orifice	ORS metering orifice size must be selected by required flow rate.

Each EFM (36 total) has a sensor cable plugged into it. When powered, each EFM sends signal through the Product Node Harness, to Product Node, to ECU.

From ECU, wireless transmits to an Android tablet, and displays flow rate and other information to user.

Part No. 36 Outlet EFM Plumbing Manifold Assembly Overview, 3-product (12 Outlets/product)

Rev. 1 Dec 10/19

Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)

WILGER

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Manifold Breakdown, 12 Outlets
PRODUCT 1 (of 3)

Manual ON/OFF Check Valve
When 'ON', acts like check valve.
When 'OFF', turns off flow for maintenance/etc.

Flowmeter Jet patent pending
Stabilizes the flow across the flowmeter paddle wheel for more accurate and consistent readings
Color coded to flow range.
(Green/Red/Blue/Black)

Flowmeter Body patent pending
Sensor is inserted into [rear side] housing.
Relays pulse feedback to product node.

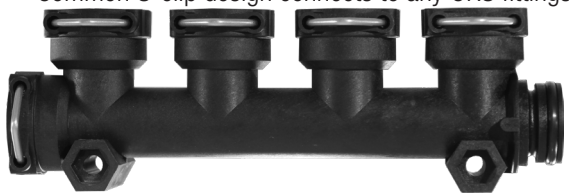
ORS Outlet/Inlet Fittings
A variety of sizes and types of fittings can be used from the O-ring Seal (ORS) outlet family. From Hose Barbs, to threads, to quick-connect tube.

ORS Metering Orifice [Optional*]
If manifold is being used to meter liquid flow, use orifice. If metering orifice exists in system elsewhere, ignore ORS metering orifice.

[Optional] ORS Strainer [not to scale]
50 Mesh ORS Strainer Assembly
Housing + Strainer Cartridge

ORS Tee [not to scale]
Center-feeds a plumbing manifold with an ORS Inlet

ORS Manifolds [not to scale]
O-ring seal manifolds are available in 1-4 outlet varieties.
Common U-clip design connects to any ORS fittings.



ORS End-Cap [not to scale]
An end-cap is used to terminate any manifold end.

Manifold, 12 Outlets

[Back View]
No sensor cable

Part No. EFM Plumbing Manifold, 12 Outlet	Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

WILGER

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Manifold Breakdown, 12 Outlets
PRODUCT 2 (of 3)

Manual ON/OFF Check Valve
When 'ON', acts like check valve.
When 'OFF', turns off flow for maintenance/etc.

Flowmeter Jet patent pending
Stabilizes the flow across the flowmeter paddle wheel for more accurate and consistent readings
Color coded to flow range.
(Green/Red/Blue/Black)

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Sensor is inserted into [rear side] housing.
Relays pulse feedback to product node.

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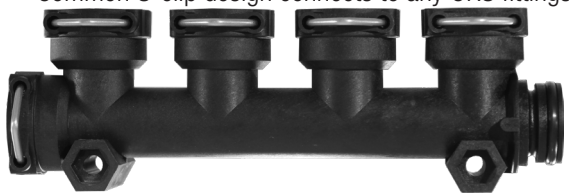
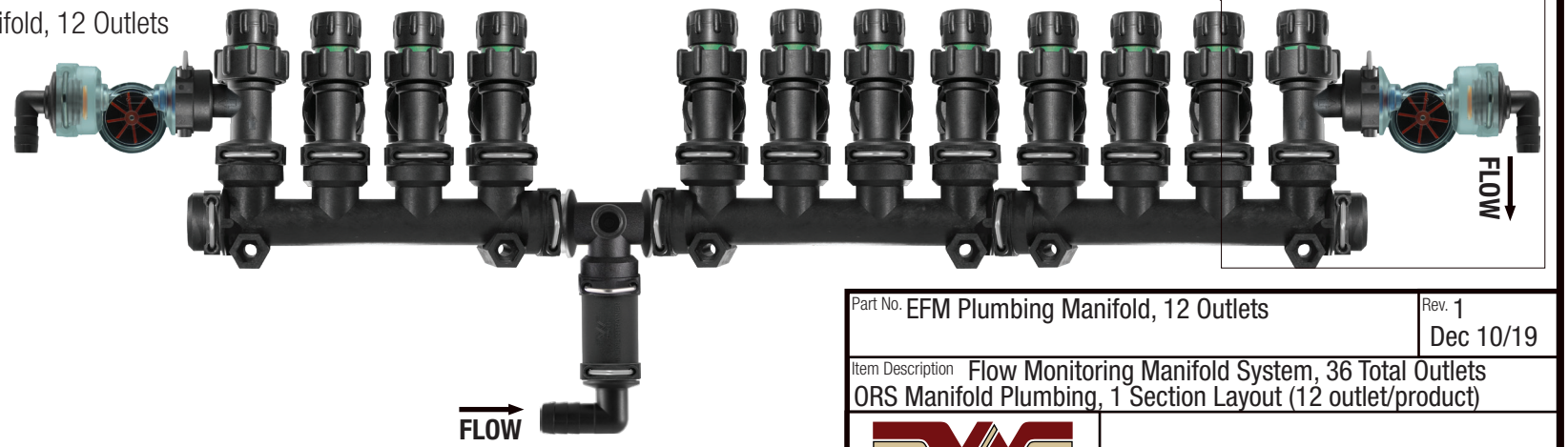


ORS End-Cap [not to scale]
An end-cap is used to terminate any manifold end.

Manifold, 12 Outlets



[Back View]
No sensor cable

Part No. EFM Plumbing Manifold, 12 Outlets	Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

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Manifold Breakdown, 12 Outlets
PRODUCT 3 (of 3)

Manual ON/OFF Check Valve
When 'ON', acts like check valve.
When 'OFF', turns off flow for maintenance/etc.

Flowmeter Jet patent pending
Stabilizes the flow across the flowmeter paddle wheel for more accurate and consistent readings
Color coded to flow range.
(Green/Red/Blue/Black)

Flowmeter Body patent pending
Sensor is inserted into [rear side] housing.
Relays pulse feedback to product node.

ORS Outlet/Inlet Fittings
A variety of sizes and types of fittings can be used from the O-ring Seal (ORS) outlet family. From Hose Barbs, to threads, to quick-connect tube.

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[Optional] ORS Strainer [not to scale]
50 Mesh ORS Strainer Assembly
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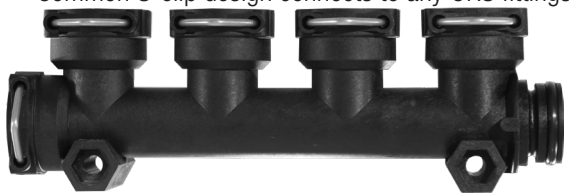
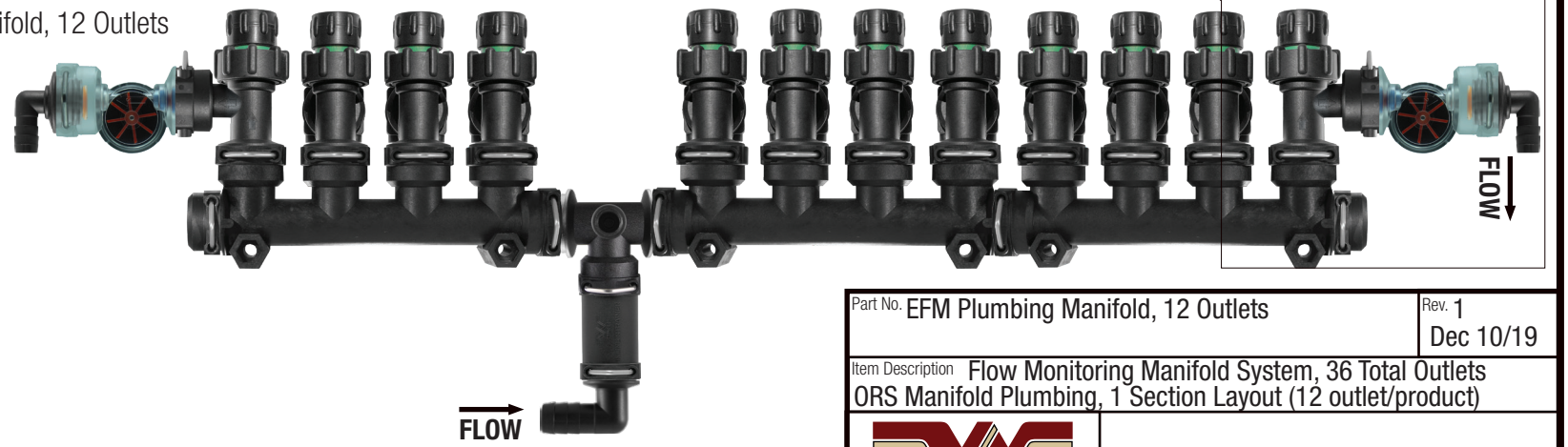
ORS Tee [not to scale]
Center-feeds a plumbing manifold with an ORS Inlet

ORS Manifolds [not to scale]
O-ring seal manifolds are available in 1-4 outlet varieties.
Common U-clip design connects to any ORS fittings.



ORS End-Cap [not to scale]
An end-cap is used to terminate any manifold end.

Manifold, 12 Outlets



[Back View]
No sensor cable

Part No. EFM Plumbing Manifold, 12 Outlets	Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

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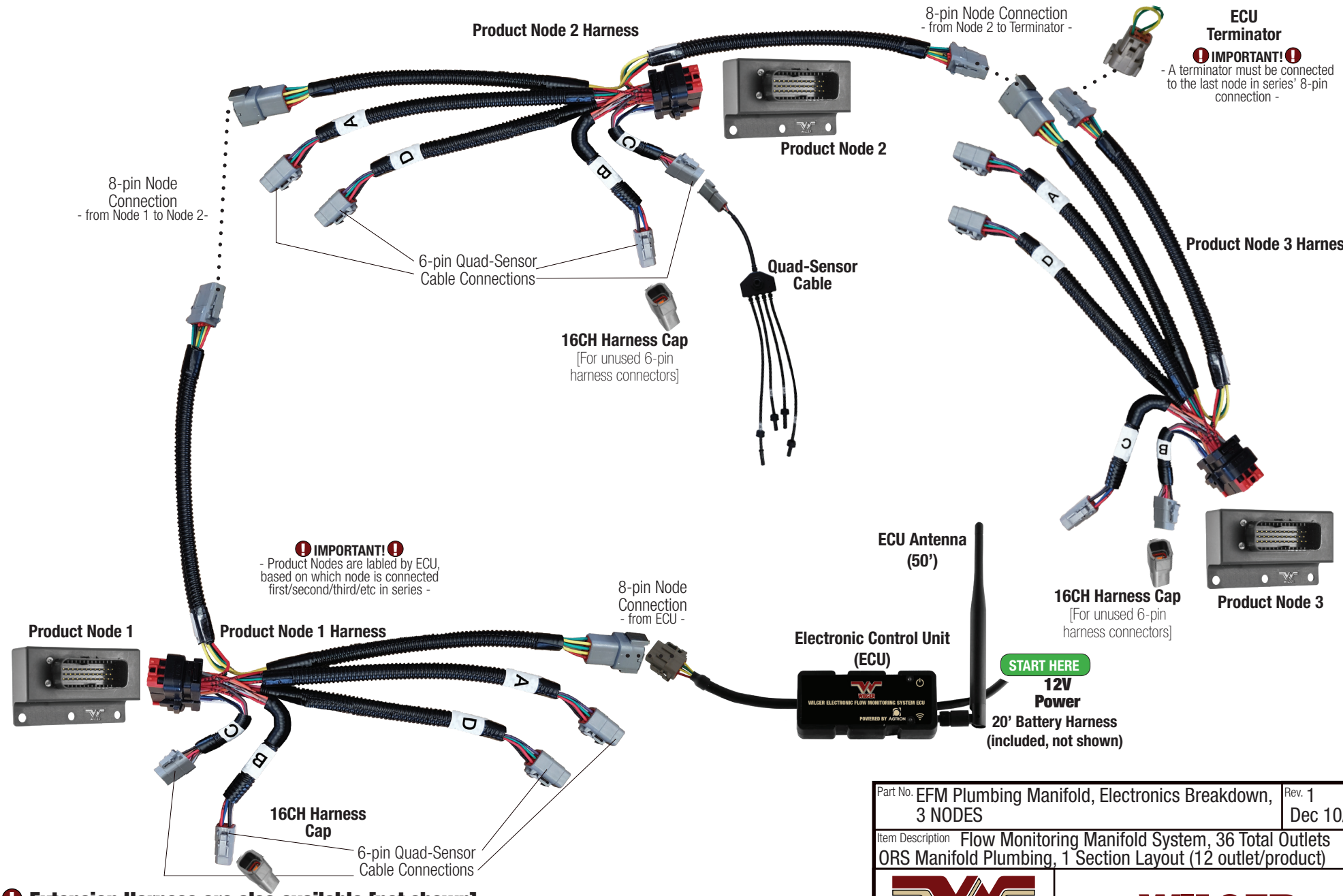
Electronics Breakdown, [Up to] 48 Sensors
36 Sensors Used (12 Outlets x 3 Products)



Extension Harness are also available [not shown]
12' Node to Node Extension Harnesses [8-pin]
6' Node to Quad-Sensor Cable Extension Harnesses [6-pin]

Part No. EFM Plumbing Manifold, Electronics Breakdown, 3 NODES	Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

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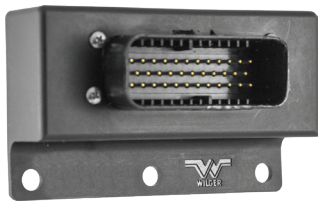
Sensor Connections Breakdown - 12 Outlet Manifold
PRODUCT 1: ROWS 1-12

8-pin Node Connection
- to Next Node in series, NODE #2-

IMPORTANT!
- Product Nodes are labled by ECU, based on which node is connected first/second/third/etc in series -

8-pin Node Connection
- from ECU -

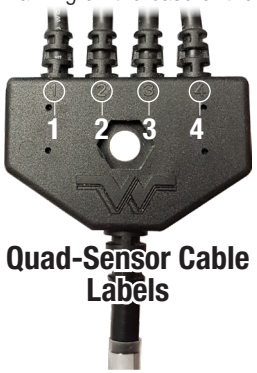
16CH Product Node Harness



16CH Product Node

Label quad-sensor cables with Node cable letter

IMPORTANT!
- Quad-sensor cables have 4 sensors, with the molded label (1/2/3/4) designed by the marking on the base of the cable -



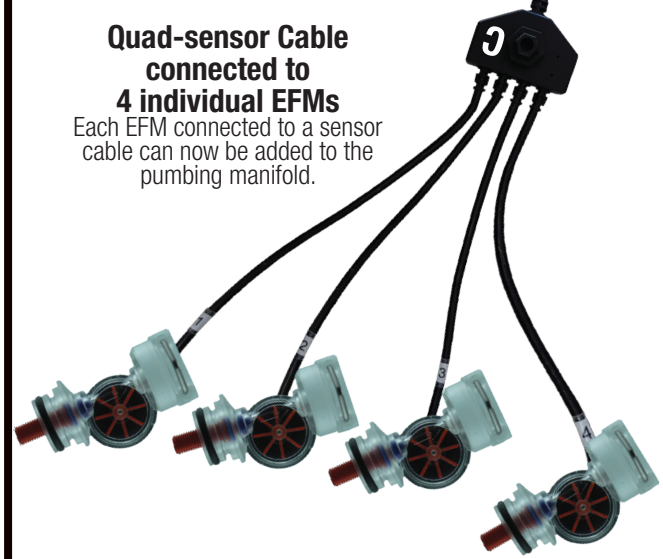
Quad-Sensor Cable Labels

Quad-Sensor Cable

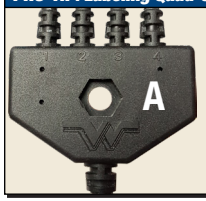
16CH Product Node Harness Cover Cap
Since only 3 of 4 harness connections are being used by quad-sensor cables, we need to cap the unused harness connection off.

We will ensure to remember that this harness location 'B' is not used, when entering sensor locations into the APP's sensor setup screen.
For example:
NODE 1, DIV B, SNR 1 will NOT be a valid sensor location, as SNR 1-4 is 'capped' off.

Quad-sensor Cable connected to 4 individual EFMs
Each EFM connected to a sensor cable can now be added to the pumbing manifold.



PRO-TIP: Labeling Quad-Sensor Cables

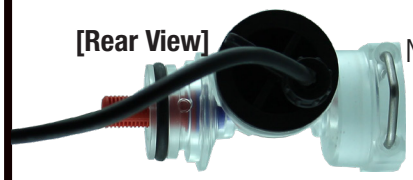


With a white marker, label each quad-sensor cable with A, B, C or D, based on which Product Node Harness cable it is connected to.

Each EFM (24 total) has a sensor cable plugged into it. When powered, each EFM sends signal through the Product Node Harness, to Product Node, to ECU.

From ECU, wireless transmits to an Android tablet, and displays flow rate and other information to user.

[Rear View]



Part No. EFM Plumbing Manifold, 24 Outlet, Sensor Connections Breakdown, PRODUCT 2, Row 1-12	Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

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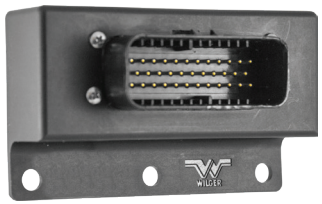
Sensor Connections Breakdown - 12 Outlet Manifold
PRODUCT 2: ROWS 1-12

8-pin Node Connection
- to Next Node in series, NODE #2-

IMPORTANT!
- Product Nodes are labled by ECU, based on which node is connected first/second/third/etc in series -

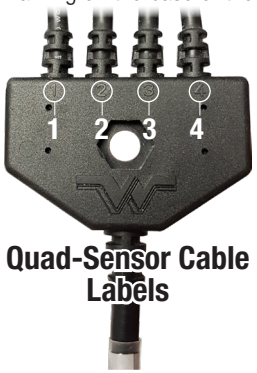
8-pin Node Connection
- from ECU -

16CH Product Node Harness



16CH Product Node

IMPORTANT!
- Quad-sensor cables have 4 sensors, with the molded label (1/2/3/4) designed by the marking on the base of the cable -



Quad-Sensor Cable Labels

Label quad-sensor cables with Node cable letter

Quad-Sensor Cable

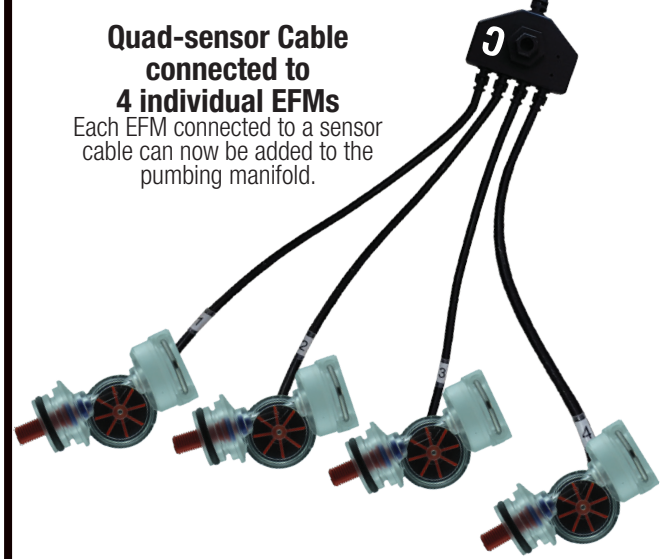
16CH Product Node Harness Cover Cap

Since only 3 of 4 harness connections are being used by quad-sensor cables, we need to cap the unused harness connection off.

We will ensure to remember that this harness location 'B' is not used, when entering sensor locations into the APP's sensor setup screen.
For example:
NODE 1, DIV B, SNR 1 will NOT be a valid sensor location, as SNR 1-4 is 'capped' off.

Quad-sensor Cable connected to 4 individual EFMs

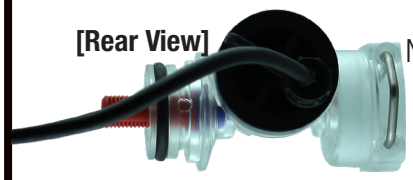
Each EFM connected to a sensor cable can now be added to the pumbing manifold.



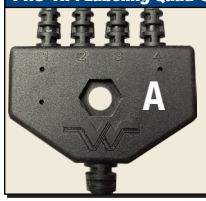
Each EFM (24 total) has a sensor cable plugged into it. When powered, each EFM sends signal through the Product Node Harness, to Product Node, to ECU.

From ECU, wireless transmits to an Android tablet, and displays flow rate and other information to user.

[Rear View]



PRO-TIP: Labeling Quad-Sensor Cables



With a white marker, label each quad-sensor cable with A, B, C or D, based on which Product Node Harness cable it is connected to.

Part No. EFM Plumbing Manifold, 24 Outlet, Sensor Connections Breakdown, PRODUCT 2, Row 1-12	Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

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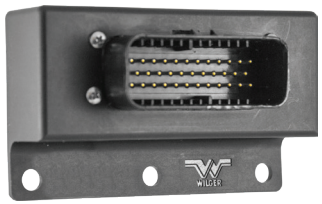
Sensor Connections Breakdown - 12 Outlet Manifold
PRODUCT 3: ROWS 1-12

8-pin Node Connection
- to Next Node in series, NODE #2-

IMPORTANT!
- Product Nodes are labled by ECU, based on which node is connected first/second/third/etc in series -

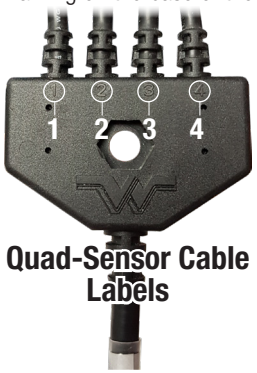
8-pin Node Connection
- from ECU -

16CH Product Node Harness



16CH Product Node

IMPORTANT!
- Quad-sensor cables have 4 sensors, with the molded label (1/2/3/4) designed by the marking on the base of the cable -

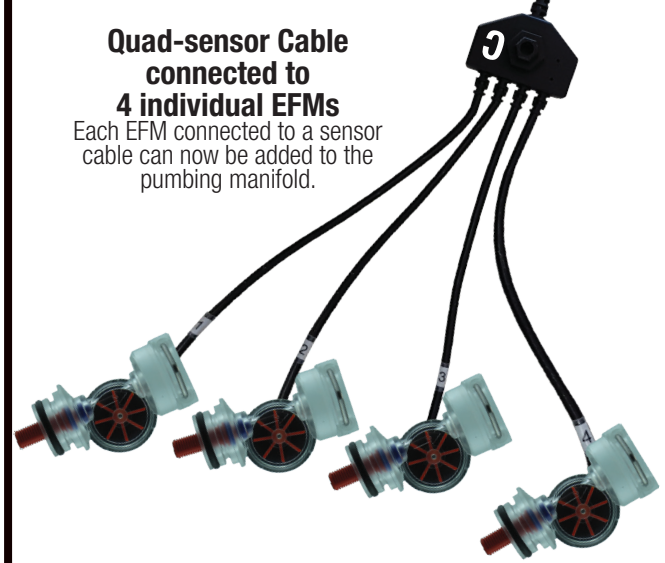


Quad-Sensor Cable Labels

Label quad-sensor cables with Node cable letter

Quad-Sensor Cable

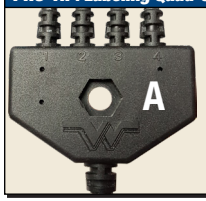
Quad-sensor Cable connected to 4 individual EFMs
Each EFM connected to a sensor cable can now be added to the pumbing manifold.



16CH Product Node Harness Cover Cap
Since only 3 of 4 harness connections are being used by quad-sensor cables, we need to cap the unused harness connection off.

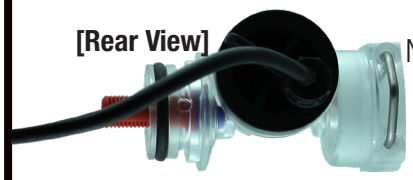
We will ensure to remember that this harness location 'B' is not used, when entering sensor locations into the APP's sensor setup screen.
For example:
NODE 1, DIV B, SNR 1 will NOT be a valid sensor location, as SNR 1-4 is 'capped' off.

PRO-TIP: Labeling Quad-Sensor Cables



With a white marker, label each quad-sensor cable with A, B, C or D, based on which Product Node Harness cable it is connected to.

[Rear View]



Each EFM (24 total) has a sensor cable plugged into it. When powered, each EFM sends signal through the Product Node Harness, to Product Node, to ECU.

From ECU, wireless transmits to an Android tablet, and displays flow rate and other information to user.

Part No.	EFM Plumbing Manifold, 24 Outlet, Sensor Connections Breakdown, PRODUCT 3, Row 1-12	Rev. 1 Dec 10/19
Item Description	Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)	

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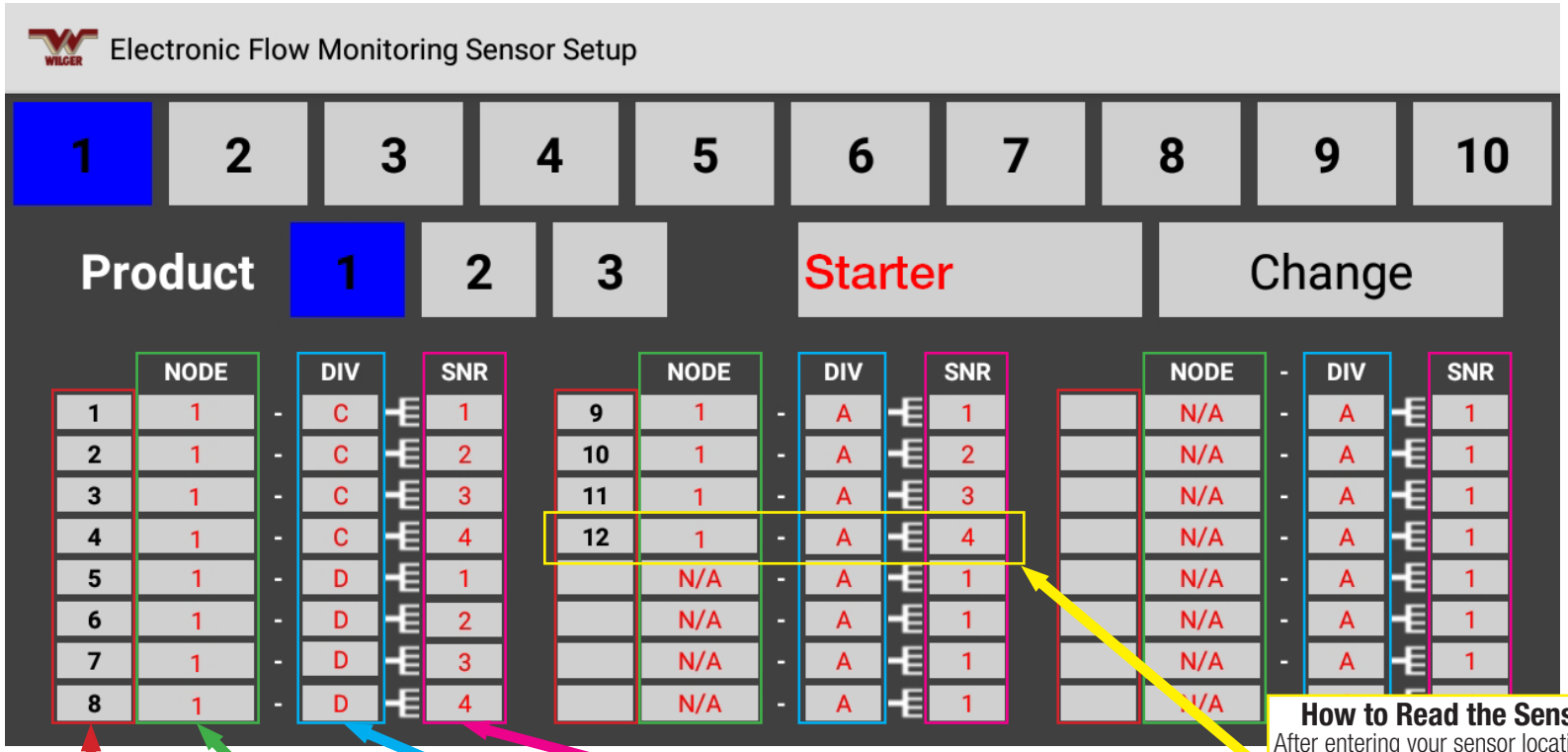
NOTE: The following may look different depending on app version being used, but in essence, will be the same. Follow the manual for the most up-to-date reflection of the app.

How To Label Sensors For Entry Into APP - PRODUCT 1, Outlets 1-12 Using NODE 1

After completely setting up the ECU Settings Screen, enter the Sensor Setup Screen, which allows you to enter each respective product sensor in it's correct position, relative to the ECU.
While sensors do not have to be connected in consecutive order as laid out on your application implement, they do have to be entered accurately within the app to reference properly on the display.
The below example screen is only ONE depiction of how to set a screen up. For convenience, you can customize the layout of the outlets on up to 10 'section' pages.

For simplicity, for a 12 outlet implement with 3 products, it will show on one screen, as 12 rows and 3 products.



"Section 1": 12 Outlets

We have to 'label' a sensor, based on its location. The label is derived from its:

PRODUCT NODE#: NODE 1

IMPORTANT!
- Product Nodes are labled by ECU, based on which node is connected first/second/third/etc in series -

QUAD-SENSOR CABLE DIVIDER [DIV] LABEL: A / B / C / D

IMPORTANT!
- Quad-sensor divider labels are labeled on the node harness itself, labeled with either an A, B, C, or D -

SENSOR CABLE LABEL: 1 / 2 / 3 / 4

IMPORTANT!
- Sensor cable labels are molded (or labeled) on the actual quad-sensor cable, with either a 1/2/3/4. Ensure you refer the sensor label correctly. -

How to Read the Sensor Location (Eg. Location 1A4)

After entering your sensor locations into the app, as you'd like them laid out on pages 1-10, you can verify each line of the example as follows: **Outlet 12** is connected to **SENSOR 4 or [SNR 4]** on the quad-sensor cable, on the **Node Harness Cable 'A' or [DIV A]**, which is connected to **Product Node 1 or [NODE 1]**.

Physical Row Description

This is manually added to depict which row this is on the implement.

For example, if a section begins at row '17', this cell can be entered as "17", etc. In this example, it began at **ROW 1**.

[NODE] PRODUCT NODE

If the sensor is connected through the PRODUCT NODE #2 harness, ensure under NODE, it is listed as '2'.

Ensure a sensor's [NODE] corresponds with its correct NODE #.
In this example, sensors 1-12 for Prod 1, began at **NODE 1**.

[DIV] QUAD-SENSOR CABLE HARNESS LABEL

Select A / B / C / D based on the corresponding node harness cable that a quad-sensor cable is attached to.

In our example, the first rows are attached to **DIV C**, as shown in the system overviews.

[SNR] SENSOR CABLE LABEL

Depending on the sensor cable's number (1/2/3/4) that is molded into the quad-sensor cable housing, enter the sensor number with the corresponding outlet.

In our example, **SNR 1** is the first row of product on the implement.

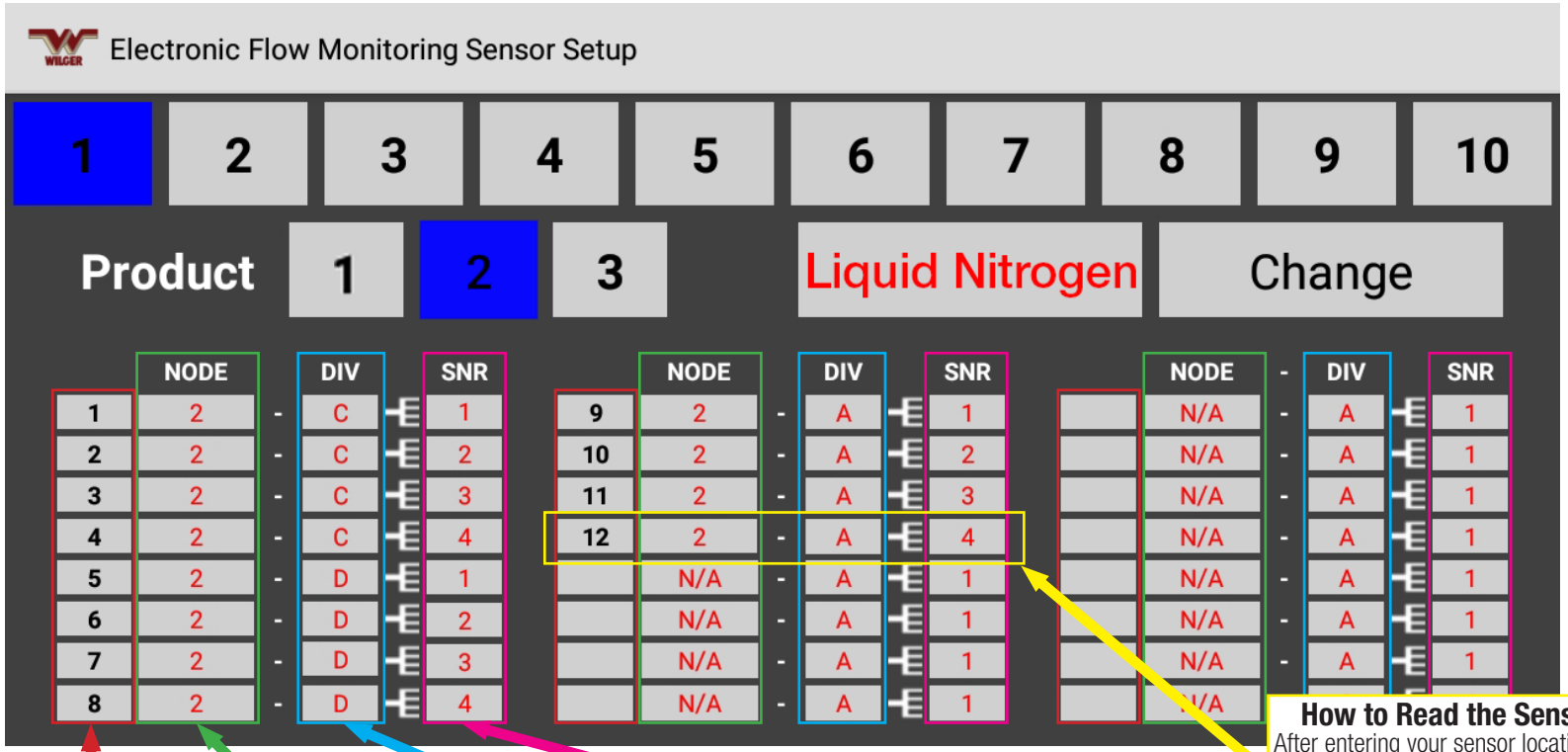
Part No. EFM Plumbing Manifold, 12 Outlet, Sensor Connections Breakdown, Product 1, Outlet 1-12
Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)

NOTE: The following may look different depending on app version being used, but in essence, will be the same. Follow the manual for the most up-to-date reflection of the app.

How To Label Sensors For Entry Into APP - PRODUCT 2, Outlets 1-12 Using NODE 2

After completely setting up the ECU Settings Screen, enter the Sensor Setup Screen, which allows you to enter each respective product sensor in it's correct position, relative to the ECU.
While sensors do not have to be connected in consecutive order as laid out on your application implement, they do have to be entered accurately within the app to reference properly on the display.
The below example screen is only ONE depiction of how to set a screen up. For convenience, you can customize the layout of the outlets on up to 10 'section' pages.

For simplicity, for a 12 outlet implement with 3 products, it will show on one screen, as 12 rows and 3 products.



"Section 1": 12 Outlets

We have to 'label' a sensor, based on its location. The label is derived from its:

PRODUCT NODE#: NODE 1

IMPORTANT!
- Product Nodes are labled by ECU, based on which node is connected first/second/third/etc in series -

QUAD-SENSOR CABLE DIVIDER [DIV] LABEL: A / B / C / D

IMPORTANT!
- Quad-sensor divider labels are labeled on the node harness itself, labeled with either an A, B, C, or D -

SENSOR CABLE LABEL: 1 / 2 / 3 / 4

IMPORTANT!
- Sensor cable labels are molded (or labeled) on the actual quad-sensor cable, with either a 1/2/3/4. Ensure you refer the sensor label correctly. -

How to Read the Sensor Location (Eg. Location 2A4)

After entering your sensor locations into the app, as you'd like them laid out on pages 1-10, you can verify each line of the example as follows: **Outlet 12** is connected to **SENSOR 4 or [SNR 4]** on the quad-sensor cable, on the **Node Harness Cable 'A' or [DIV A]**, which is connected to **Product Node 2 or [NODE 2]**.

Physical Row Description

This is manually added to depict which row this is on the implement.

For example, if a section begins at row '17', this cell can be entered as "17", etc. In this example, it began at **ROW 1**.

[NODE] PRODUCT NODE

If the sensor is connected through the PRODUCT NODE #2 harness, ensure under NODE, it is listed as '2'.

Ensure a sensor's [NODE] corresponds with its correct NODE #.
In this example, sensors 1-12 for Prod 2, began at **NODE 2**.

[DIV] QUAD-SENSOR CABLE HARNESS LABEL

Select A / B / C / D based on the corresponding node harness cable that a quad-sensor cable is attached to.

In our example, the first rows are attached to **DIV C**, as shown in the system overviews.

[SNR] SENSOR CABLE LABEL

Depending on the sensor cable's number (1/2/3/4) that is molded into the quad-sensor cable housing, enter the sensor number with the corresponding outlet.

In our example, **SNR 1** is the first row of product on the implement.

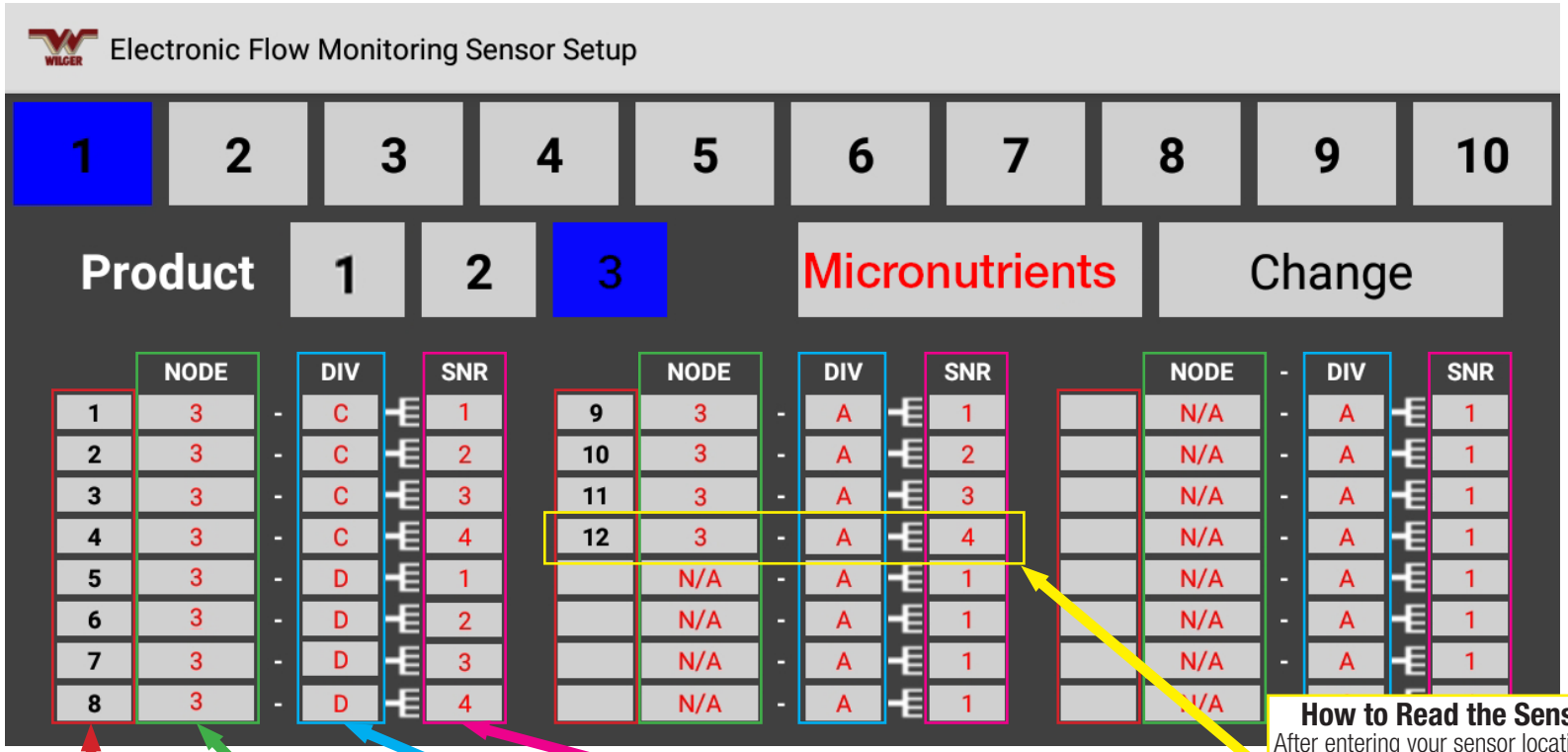
Part No. EFM Plumbing Manifold, 12 Outlet, Sensor Connections Breakdown, Product 1, Outlet 1-12
Rev. 1 Dec 10/19
Item Description Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)

NOTE: The following may look different depending on app version being used, but in essence, will be the same. Follow the manual for the most up-to-date reflection of the app.

How To Label Sensors For Entry Into APP - PRODUCT 3, Outlets 1-12 Using NODE 3

After completely setting up the ECU Settings Screen, enter the Sensor Setup Screen, which allows you to enter each respective product sensor in it's correct position, relative to the ECU.
While sensors do not have to be connected in consecutive order as laid out on your application implement, they do have to be entered accurately within the app to reference properly on the display.
The below example screen is only ONE depiction of how to set a screen up. For convenience, you can customize the layout of the outlets on up to 10 'section' pages.

For simplicity, for a 12 outlet implement with 3 products, it will show on one screen, as 12 rows and 3 products.



Physical Row Description

This is manually added to depict which row this is on the implement.

For example, if a section begins at row '17', this cell can be entered as "17", etc. In this example, it began at **ROW 1**.

[NODE] PRODUCT NODE

If the sensor is connected through the PRODUCT NODE #2 harness, ensure under NODE, it is listed as '2'.

Ensure a sensor's [NODE] corresponds with its correct NODE #.
In this example, sensors 1-12 for Prod 3 began at **NODE 3**.

[DIV] QUAD-SENSOR CABLE HARNESS LABEL

Select A / B / C / D based on the corresponding node harness cable that a quad-sensor cable is attached to.

In our example, the first rows are attached to **DIV C**, as shown in the system overviews.

[SNR] SENSOR CABLE LABEL

Depending on the sensor cable's number (1/2/3/4) that is molded into the quad-sensor cable housing, enter the sensor number with the corresponding outlet.

In our example, **SNR 1** is the first row of product on the implement.

How to Read the Sensor Location (Eg. Location 3A4)

After entering your sensor locations into the app, as you'd like them laid out on pages 1-10, you can verify each line of the example as follows: **Outlet 12** is connected to **SENSOR 4 or [SNR 4]** on the quad-sensor cable, on the **Node Harness Cable 'A' or [DIV A]**, which is connected to **Product Node 3 or [NODE 3]**.

"Section 1": 12 Outlets

We have to 'label' a sensor, based on its location. The label is derived from its:

PRODUCT NODE#: NODE 1

IMPORTANT!
- Product Nodes are labled by ECU, based on which node is connected first/second/third/etc in series -

QUAD-SENSOR CABLE DIVIDER [DIV] LABEL: A / B / C / D

IMPORTANT!
- Quad-sensor divider labels are labeled on the node harness itself, labeled with either an A, B, C, or D -

SENSOR CABLE LABEL: 1 / 2 / 3 / 4

IMPORTANT!
- Sensor cable labels are molded (or labeled) on the actual quad-sensor cable, with either a 1/2/3/4. Ensure you refer the sensor label correctly. -

Part No.	EFM Plumbing Manifold, 12 Outlet, Sensor Connections Breakdown, Product 1, Outlet 1-12	Rev. 1	Dec 10/19
Item Description	Flow Monitoring Manifold System, 36 Total Outlets ORS Manifold Plumbing, 1 Section Layout (12 outlet/product)		

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