IMI NORGREN®

Industrial Automation

Engineering
GREAT Solutions

IntelliSense®
Predictive Intelligence for Pneumatics

IMI Precision Engineering

Contents

All of our products are backed with an industry leading 2-year warranty. Our dedicated team of experts is on hand with technical advice, support and recommendations to help you get the most effective products, in the shortest timescales, and with the best possible service.

Engineering GREAT solutions

*We deliver **GREAT** solutions for our customers tackling the world's most demanding engineering challenges*

IMI Precision Engineering is a world leader in motion and fluid control technologies. Wherever precision, speed and engineering reliability are essential, we deliver exceptional solutions which improve the productivity and efficiency of our customers' equipment.

Part of IMI plc, we have a sales and service network in 50 countries, as well as manufacturing capability in the USA, Germany, China, UK, Switzerland, Czech Republic, Mexico and Brazil. We support this with our global centres of technical excellence, and facilities for CFD design and R&D testing. We employ a dedicated team of field engineers, sector specialists and key account managers – all committed to providing excellent service to our customers.

As a business, we aim to **UNDERSTAND** our customers' challenges. We then **CONNECT** our products, people and expertise in order to **DELIVER** exceptional service and solutions. These **IMPROVE** the performance of our customers' machinery.

We call this Engineering GREAT, and we deliver it to customers through a world-class portfolio of high performance products, through close partnerships and problem-solving, and through a global network of support which ensures reliable local delivery, all over the world.

We get closer to our customers to understand their exact challenges

How we deliver value to our customers

Partnerships & problem solving

We have a global team of key account managers and over 400 highly experienced engineers – many with in-depth expertise of key industry sectors.

We recruit and develop the industry's top talent, offering the best training and exposure to world-class products and technologies with some of the world's leading businesses. The deep and combined experience this gives us means we have the skills, confidence and know-how to get closer to our customers, enabling us to understand their exact challenges and resolve them **precisely**.

Because of this our problem-solving is more effective, our solutions more targeted, our partnerships more productive.

High performance products

Our world-class products improve performance and productivity.

We have global manufacturing capability and technical centres of excellence, each dedicated to developing and rigorously testing new high performance products to meet **precise** industry and application needs. Helping improve performance and reduce downtime and energy consumption on production lines across the world, our world-class portfolio includes IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal. Having proven their value over years, they stand amongst the most trusted names in fluid and motion control. We are continuously adding to this portfolio through a programme of innovation and new product development.

Because of this, we're able help our customers solve the world's greatest engineering challenges – reliably, safely and efficiently.

Reliability

We deliver and support our high quality products through our global service network.

We have world-class manufacturing and sales and service operations in 50 countries, supported by investment in robust project management systems and lean localised production. Together, with our integrated supply chain, and the speed of our Express service we have the systems, processes and support to deliver quality products and aftersales service **precisely**, reliably, in full and on time, anywhere.

IntelliSense®

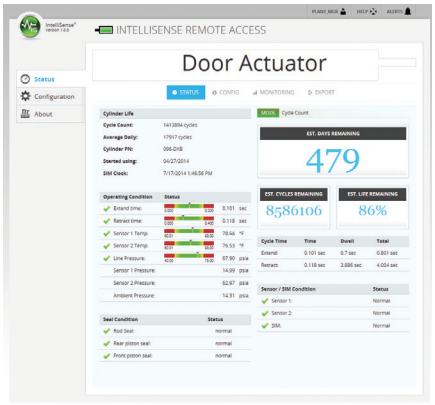
Introducing IntelliSense®, a one-of-a-kind technology platform combining sensors, cylinders and software to deliver real-time performance data for standard IMI Norgren pneumatic devices.

With IntelliSense®, users can utilise condition-based monitoring to be proactive about maintenance and system optimisation to maximise uptime in the age of full-tilt manufacturing.

Product features

Cylinder Status

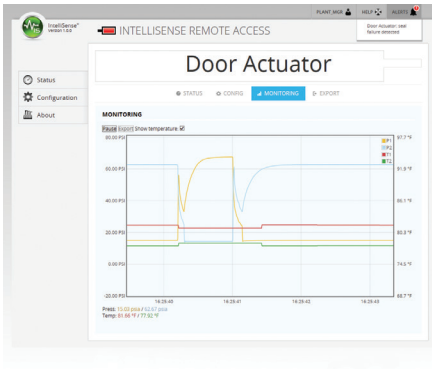
The IntelliSense® software can be installed on a PC for local monitoring of the IntelliSense® Sensor Interface Module (SIM) providing access to the current cylinder status, including cycle time, cycle count, estimated cycles remaining, estimated days of life remaining and estimated percentage of cylinder life remaining. The addition of an IntelliSense® Data Gateway and an internet connection gives access to the status of multiple SIMs at the same time from anywhere in the world.



IntelliSense® Cylinder Status

Pressure and Temperature Monitoring

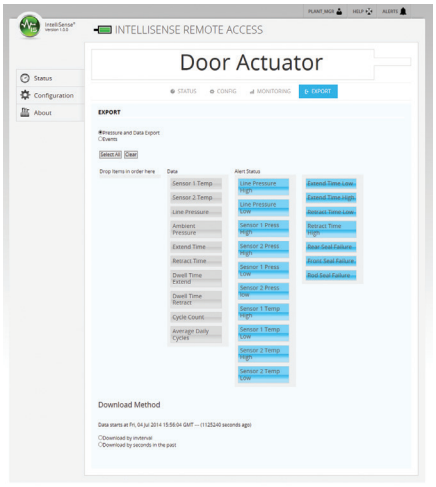
The IntelliSense® software monitoring windows stream pressure data from both sensors every millisecond and temperature data every second providing a deeper understanding of how the system is performing and guiding enhancements to the efficiency of your machine by optimising air usage.



Pressure and Temperature Monitoring

IntelliSense® Data Gateways Data Logging

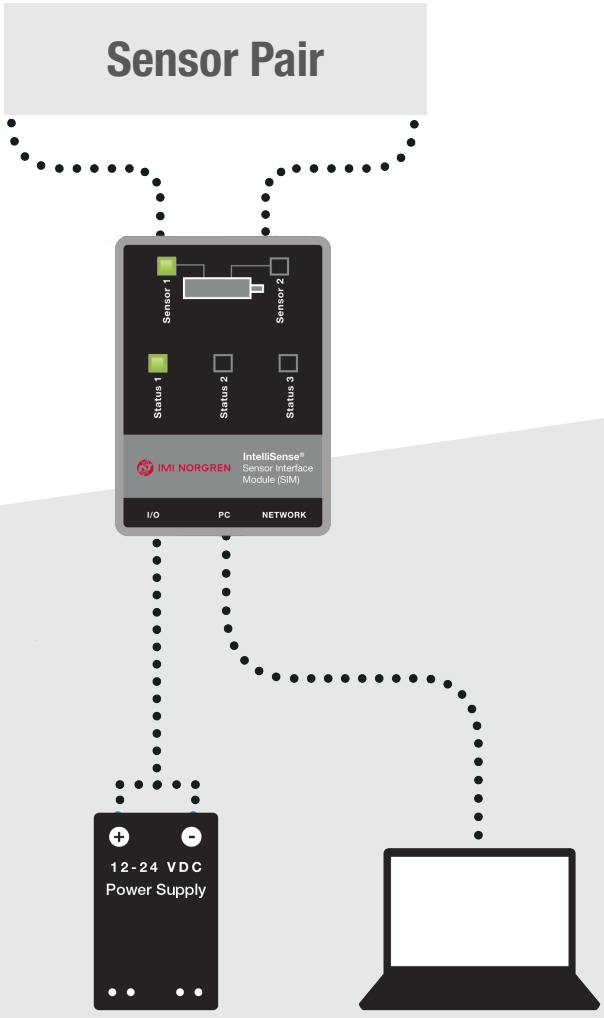
IntelliSense® Data Gateway offers an enhanced user interface that includes data logging and export. With over 100 GB of available storage, the IntelliSense® Data Gateway stores 30 different variables including Pressure, Temperature, Extend Time, Retract Time. Many of these variables can indicate product quality. The data logged can provide an additional data point ensuring a batch of product was manufactured correctly.



IntelliSense® Data Gateway Data Export

How it works

- The “intelligence” lies within the IntelliSense® Sensor Interface Module (SIM). This remote monitoring device gives users operational insights at the device level.
- The IntelliSense® SIM can be easily connected to IMI Norgren cylinders using pneumatic fittings.
- Using a sensor pair, IntelliSense® is able to report a range of data, including cylinder condition, stroke time, end of travel, pressure and temperature.
- Data and insights can be sent from the IntelliSense® SIM to a PLC for advance alarming and controls while also sending real-time information to a PC or IntelliSense® Data Gateway, which enables remote monitoring and data logging for user analysis.
- The machine-to-machine technologies allow for close monitoring of individual components, giving users the insight needed to move from emergency repair to proactive upgrades—optimising production as a whole.



IntelliSense® networks

IntelliSense® brings three typically disparate sub-systems: Pneumatic, Data, and Controls, together to enable you to optimise your systems performance.

The power of the IntelliSense® platform is its flexibility and scalability. From monitoring a single cylinder using the integrated status lights to monitoring dozens of cylinders on the other side of the world with the IntelliSense® Data Gateway, the IntelliSense® platform can be configured to meet your needs.

Pneumatic

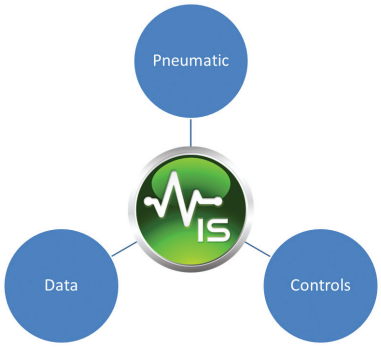
The IntelliSense® system is designed to be easily installed in any application. The IntelliSense® sensors come pre-assembled to a push to connect fitting available in eight different sizes, both imperial and metric. The sensors have a stainless steel housing and are IP69K rated allowing them to be located in tough environments near the application.

Data

Each IntelliSense® Data Gateway allows you to store detailed performance data from up to 12 SIMs simultaneously. When connected to the internet, the Gateway allows remote access to the real time data from the attached SIMs.

Controls

The power of data is being able to use it. The IntelliSense® SIM can be connected to a PLC using MODBUS RTU on a RS485 network. The SIM provides read only access of cylinder performance data and alerts status over MODBUS RTU to the PLC. This data can be used to modify the performance of the machine to improve efficiency or alert an operator of an impending failure.



How to order

The IntelliSense® Kit part number consists of five alphanumeric clusters. The clusters allow the kit to be configured to match your requirements by selecting the kit type and the tee fitting size. Only one style of SIM module and pressure sensor is available, therefore they are “fixed” in the part number as shown below.

Option selector

NISK-★MA-★★★

IntelliSense® Kit Kit type	Substitute
Basic	**B**
Data	**D**
Starter	**S**
SIM module	**Substitute**
Standard	**M**
Pressure sensor	**Substitute**
Standard	**A**

Fitting	Substitute
6 mm OD	**6**
10 mm OD	**10**
3/32" OD or 4 mm OD	**156**
1/4" OD	**250**
5/16" OD or 8mm OD	**313**
3/8" OD	**375**

IntelliSense® Kit Types

Basic Kit	
1	IntelliSense® Sensor Interface Module (SIM)
2	IntelliSense® Pressure/ Temperature Sensor
2	IntelliSense® Fittings

Starter Kit	
1	IntelliSense® Sensor Interface Module (SIM)
2	IntelliSense® Pressure/Temperature Sensor
2	IntelliSense® Fittings
2	IntelliSense® 2.0 m Sensor Cable
1	IntelliSense® 0.5 m IO Cable
1	IntelliSense® USB Programming Cable
1	24V Power Supply

Data Starter Kit	
1	IntelliSense® Sensor Interface Module (SIM)
2	IntelliSense® Pressure/Temperature Sensor
2	IntelliSense® Fittings
2	IntelliSense® 2.0 m Sensor Cable
1	IntelliSense® 0.5 m IO Cable
1	IntelliSense® USB Programming Cable
1	IntelliSense® Data Gateway
1	24V Power Supply

Service parts

Service Parts	Part number
IntelliSense® Pressure / Temperature Sensor	NISS-1A-7SS
IntelliSense® Sensor Interface Module (SIM)	NISM-S1-BA1-5P
IntelliSense® Fitting, 6mm OD Tubing	NISF-T1-006
IntelliSense® Fitting, 10mm OD Tubing	NISF-T1-010
IntelliSense® Fitting, 5/32" OD or 4mm OD Tubing	NISF-T1-156
IntelliSense® Fitting, 1/4" OD Tubing	NISF-T1-250
IntelliSense® Fitting, 5/16" OD or 8mm OD Tubing	NISF-T1-313
IntelliSense® Fitting, 3/8" OD Tubing	NISF-T1-375
IntelliSense® Data Gateway DIN Rail Bracket	NISG-BRKT

Accessories

Accessories	Part number
IntelliSense® Data Gateway	NISG-01
IntelliSense® Junction Block	NISH-R04
IntelliSense® 2.0 Meter Sensor Cable	NCBL-IS-M8-2
IntelliSense® 5.0 Meter Sensor Cable	NCBL-IS-M8-5
IntelliSense® 0.5 Meter IO Cable	NCBL-IS-CF-0.5
IntelliSense® USB Programming Cable	NCBL-IS-RU-1.8
IntelliSense® DB9 to RJ45 Serial Cable	NCBL-IS-RD-2
IntelliSense® DB9 to RJ45 Serial Cable	NCBL-IS-RD-0.5
RS422 to USB HUB	NISH-D04
24V Power Supply	NPWR-020A24-DIN

1

Kits


IMI NORGREN
IntelliSense®
Data Gateway
Sensor 1
Sensor 2
Status 1
Status 2
Status 3
IntelliSense®
Sensor Interface
Module (SIM)
I/O
PC
NETWORK
Door Actuator
500
8967567
90%

TECHNICAL DATA
Kit specifications

Materials

IntelliSense® SIM
Housing: ABS
Back Plate: Mild Steel

IntelliSense® Pressure/ Temperature Sensor
Housing: 303 Stainless steel
Port: 303 Stainless steel
Sensor Isolation Barrier Retaining Ring: 304 Stainless Steel
Sensor Isolation Barrier: Silicone Gel
O-Ring Seal: Buna-N

IntelliSense® Fitting
Body: Nickel Plated Brass
Seals: Buna-N

Stainless Steel Fitting
Body: Stainless steel

IntelliSense® Data Gateway
Housing: Plastic and Aluminium

Ingress Protection Rating

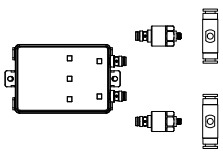
IntelliSense® SIM	IP50
IntelliSense® Pressure/ Temperature Sensor	IP69K

Specifications

Model	Operating temperature range	Operating pressure range	Overpressure rating	Burst pressure
IntelliSense® SIM	0°C ... 55°C (32°F ... 131°F)	–	–	–
IntelliSense® Pressure/ Temperature Sensor	-40°C ... 80°C (-40°F ... 176°F)	0 bar(a) to 14 bar(a) (0 psia to 200 psia)	2X Maximum Operating Pressure	5X Maximum Operating Pressure
IntelliSense® Fitting	0°C ... 60°C (0°F ... 140°F)	1 bar (a) to 11.4 bar (a) (14.7 psia to 164.7 psia)	18.3 bar(a) (264.7 psia)	–
IntelliSense® Data Gateway	0°C ... 55°C (32°F ... 131°F)	–	–	–
IntelliSense® Programming Cable	-40°C ... 85°C (-40°F ... 185°F)	–	–	–
IntelliSense® Sensor Cable	-20°C ... 80°C (-4°F ... 176°F)	–	–	–
IntelliSense® I/O Cable	-20°C ... 80°C (-4°F ... 176°F)	–	–	–
24 V Power Supply	-20°C ... 70°C (-20°F ... 158°F)	–	–	–
Stainless Steel Fitting	-40°C ... 80°C (-40°F ... 176°F)	0 bar(a) to 14 bar(a) (0 psia to 200 psia)	28 bar(a) (400 psia)	–

TECHNICAL DATA
How to specify kits

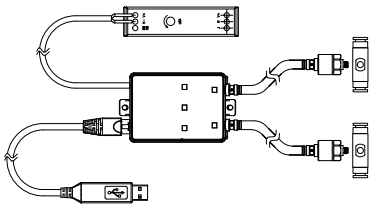
IntelliSense® hardware is available in kits or as individual components.
The kits are the most cost effective way to get started with IntelliSense®.



IntelliSense® Basic Kit

The IntelliSense® Basic Kit contains just the basic hardware and software. It is designed for customers that want to provide their own cabling and power.

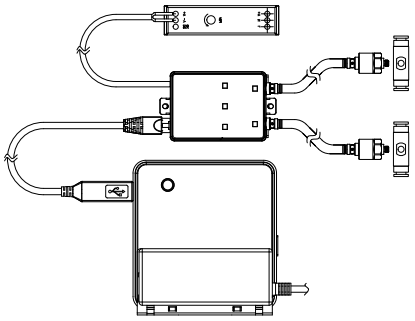
Contents:
1 - IntelliSense® Sensor Interface Module (SIM)
2 - IntelliSense® Pressure/Temperature Sensor
2 - IntelliSense® Fittings
1 - USB Drive with Software



IntelliSense® Starter Kit

The IntelliSense® Starter Kit contains everything you need to get started using IntelliSense®. This kit is perfect for bench testing and product development.

Contents:
1 - IntelliSense® Sensor Interface Module (SIM)
2 - IntelliSense® Pressure/Temperature Sensor
2 - IntelliSense® Fittings
2 - IntelliSense® 2.0 m Sensor Cable
1 - IntelliSense® 0.5 m IO Cable
1 - IntelliSense® USB Programming Cable
1 - 24 V Power Supply
1 - USB Drive with Software



IntelliSense® Data Starter Kit

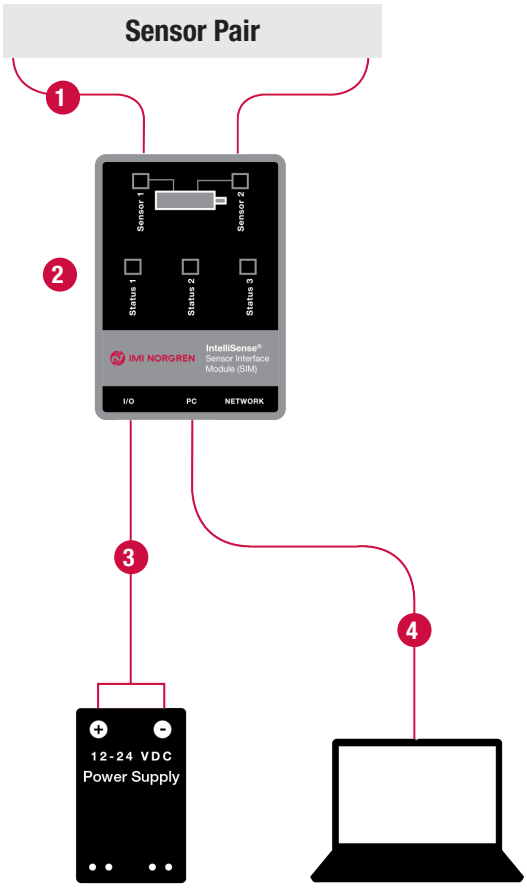
The IntelliSense® Data Starter Kit contains everything you need to take IntelliSense® to the next level and add remote monitoring and data logging.

Contents:
1 - IntelliSense® Sensor Interface Module (SIM)
2 - IntelliSense® Pressure/Temperature Sensor
2 - IntelliSense® Fittings
2 - IntelliSense® 2.0 m Sensor Cable
1 - IntelliSense® 0.5 m IO Cable
1 - IntelliSense® USB Programming Cable
1 - IntelliSense® Data Gateway
1 - 24 V Power Supply
1 - USB Drive with Software

INTELLISENSE®
Sample architectures

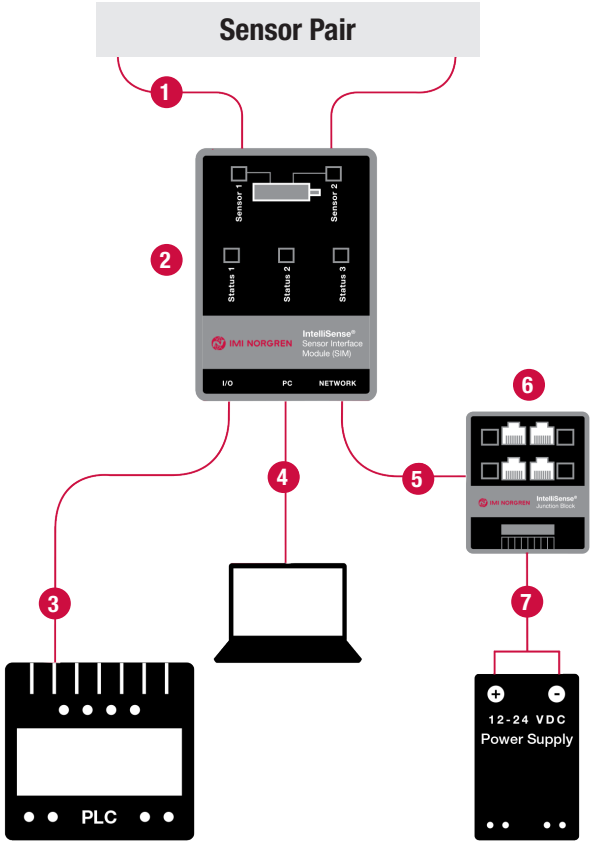
There are many different ways to configure your IntelliSense® networks.
Here are a few basic architectures to help you design your own network.
All of these architectures are easily scalable to meet you network needs.
Contact us for more information in developing your IntelliSense® network.

BASIC MONITORING



1. IntelliSense® Sensor Cables: NCBL-IS-M8-X
2. IntelliSense® Basic Kit Sensor Interface Module and Sensor Pair: NISK-BMA-XXX
3. IntelliSense® IO Cable: NCBL-IS-CF-0.5
4. IntelliSense® USB Programming Cable: NCBL-IS-RU-1.8

BASIC MONITORING AND MODBUS RTU NETWORK



1. IntelliSense® Sensor Cables: NCBL-IS-M8-X
2. IntelliSense® Basic Kit Sensor Interface Module and Sensor Pair: NISK-BMA-XXX
3. IntelliSense® IO Cable: NCBL-IS-CF-0.5
4. IntelliSense® USB Programming Cable: NCBL-IS-RU-1.8
5. RJ45-RJ45 (User Supplied)
6. IntelliSense® Junction Block: NISH-R04
7. Power Cable (User Supplied)

INTELLISENSE®
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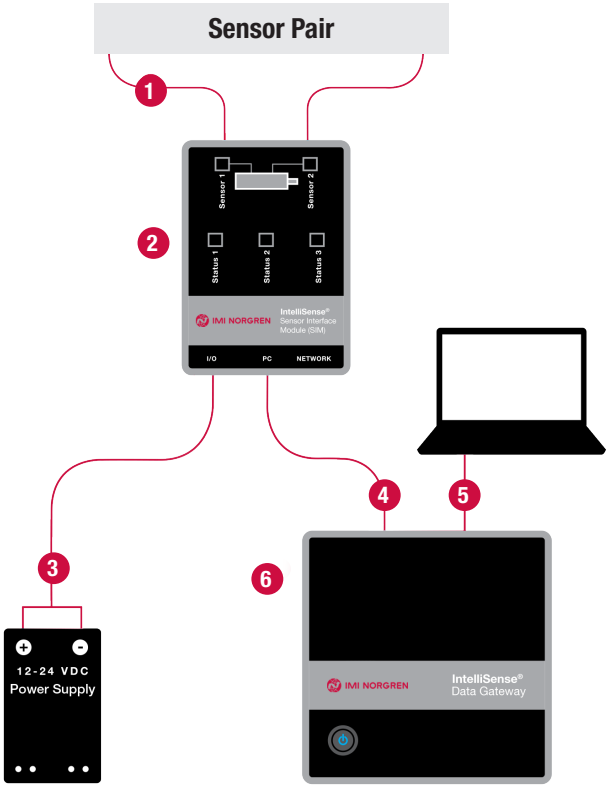
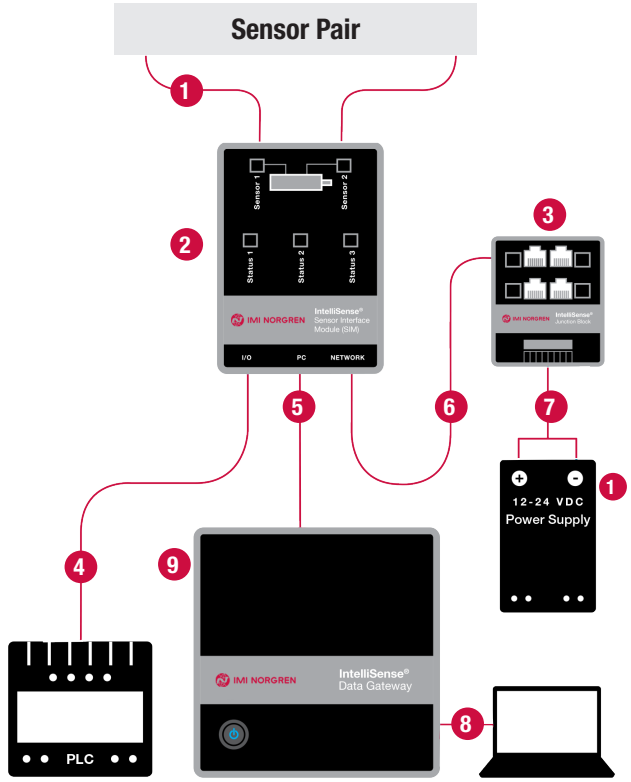
BASIC DATA LOGGING AND REMOTE MONITORING



1. IntelliSense® Sensor Cables: NCBL-IS-M8-X
2. IntelliSense® Basic Kit Sensor Interface Module and Sensor Pair: NISK-BMA-XXX
3. IntelliSense® IO Cable: NCBL-IS-CF-0.5
4. IntelliSense® USB Programming Cable: NCBL-IS-RU-1.8
5. Wireless or Wired Ethernet Network (User Supplied)
6. IntelliSense® Junction Block: NISH-R04

DATA LOGGING REMOTE MONITORING AND MODBUS RTU NETWORK



1. IntelliSense® Sensor Cables: NCBL-IS-M8-X
2. IntelliSense® Basic Kit Sensor Interface Module and Sensor Pair: NISK-BMA-XXX
3. IntelliSense® Junction Block: NISH-R04
4. IntelliSense® IO Cable: NCBL-IS-CF-0.5
5. IntelliSense® USB Programming Cable: NCBL-IS-RU-1.8
6. RJ45-RJ45 (User Supplied)
7. Power Cable (User Supplied)
8. Wireless or Wired Ethernet Network (User Supplied)
9. IntelliSense® Data Gateway: NISG-01

INTELLISENSE®
Sample architectures

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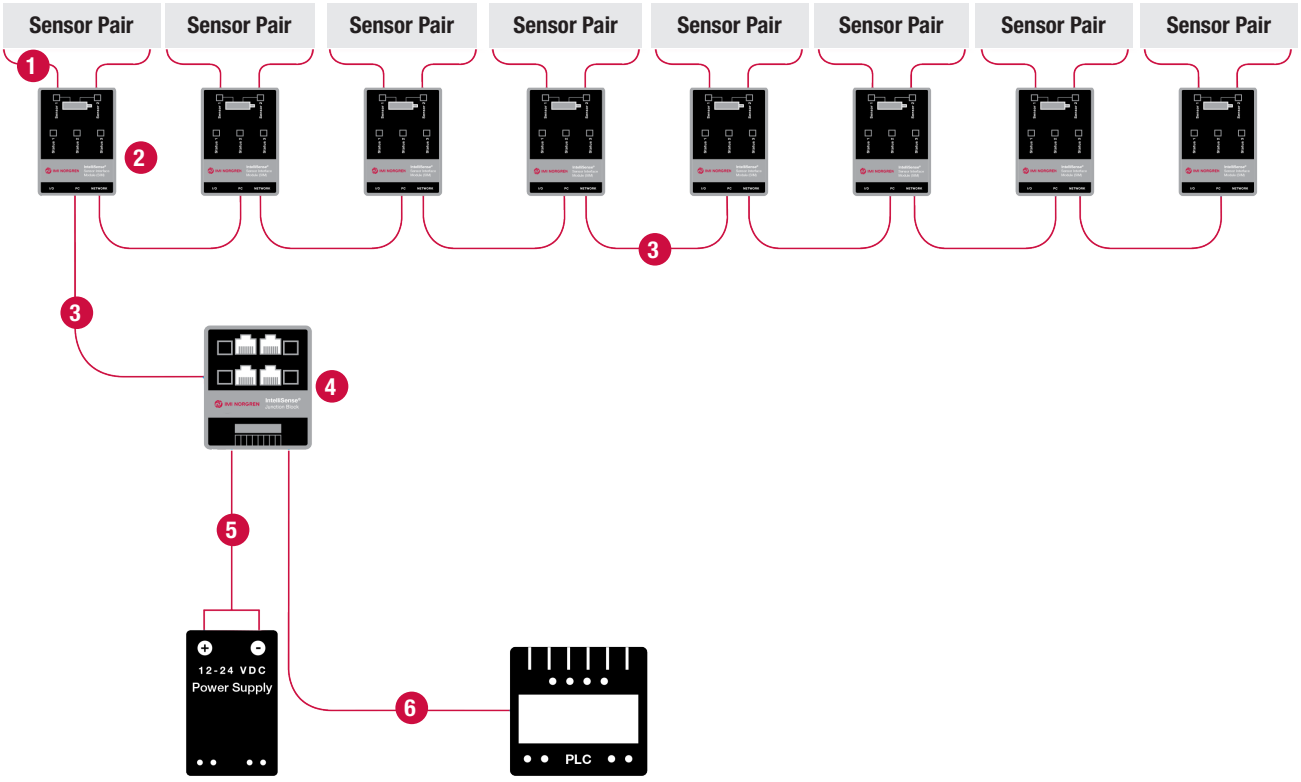
DAISY CHAINED MODBUS RTU NETWORK WITH MULTIPLE SIM



1. IntelliSense® Sensor Cables: NCBL-IS-M8-X
2. IntelliSense® Basic Kit Sensor Interface Module and Sensor Pair: NISK-BMA-XXX
3. RJ45-RJ45 (User Supplied)
4. IntelliSense® Junction Block: NISH-R04
5. Power Cable (User Supplied)
6. Modbus Interface Cable (User Supplied)

INTELLISENSE®
Sample architectures

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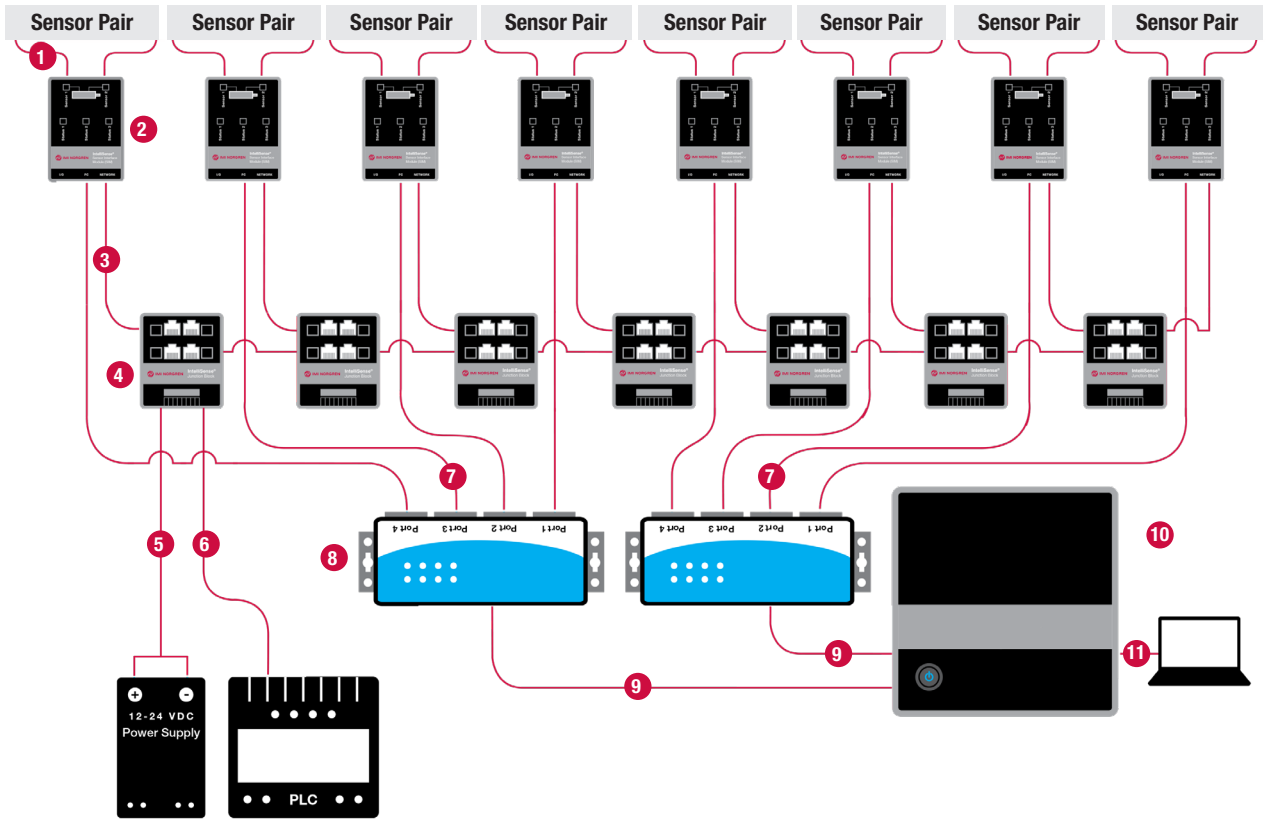
DAISY CHAINED MODBUS RTU NETWORK WITH MULTIPLE SIM



1. IntelliSense® Sensor Cables: NCBL-IS-M8-X
2. IntelliSense® Basic Kit Sensor Interface Module and Sensor Pair: NISK-BMA-XXX
3. RJ45-RJ45 (User Supplied)
4. IntelliSense® Junction Block: NISH-R04
5. Power Cable (User Supplied)
6. Modbus Interface Cable (User Supplied)
7. IntelliSense® D89 to RJ45 Cable: NCBL-IS-RD-XX
8. RS422 to USB Hub: NISH-004
9. USB Cable: (Supplied with NISH-D04)
10. IntelliSense® Data Gateway: NISG-01
11. Wireless or Wired Ethernet Network (User Supplied)

Engineering GREAT Solutions

IMI NORGREN

IMI BUSCHJOST

IMI FAS

IMI HERION

IMI MAXSEAL

Open. Push. Swing. Twist. Lift. Close. We're ideas makers. Creators of motion. Applying our imagination to help you keep your machines moving, in everything from industrial automation to rail. Working with you, we help render your vision real. All the time keeping our eyes on swift service and smart support.

Actuators. Valves. Air Preparation. Fittings.

Just imagine what else we could do for you...
Visit: www.mostmarvellousmachines.com

IMI Precision Engineering

For further information, visit **www.imi-precision.com** and use the new improved search function. If you cannot see the option you require please contact us.

IMI NORGREN

2

Service Parts

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering service parts range. If you can't see the option you require please contact us.

IntelliSense® Sensor Interface Module (SIM)

NISM-S1-BA1-5P
IP50 rated

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IntelliSense® Pressure/Temperature Sensor

NISS-1A-7SS
IP69K rated

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Fitting

NISF-T1
4 mm, 6 mm, 8 mm, 10 mm, 5/32", 1/4", 5/16", 3/8"

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IntelliSense® Sensor Interface Module (SIM)

NISM-S1-BA1-5P

- Five LEDs indicate the status of the item being monitored
- RJ45 connector for Modbus RTU communication
- RJ45 connector for Serial RS422 communication
- 2 Male four pin micro M8 connectors for sensor communication
- IP50 Rated

Technical Data

IP rating:
IP50

Operating Temperature:
0°C...55°C (-32°F...131°F)

Vibration:
5G @ 15Hz - 500Hz -1hr - Random @ 0°C & 55°C (Operating)

Shock:
30G 10,000 times each axis and direction

Mounting options:
35 mm DIN Rail using Brackets
Flush mounted using Screw Hole

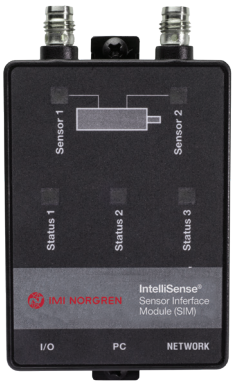
Certifications:
UL EN61326-1 (Industrial), UL EN61000-3-2, UL EN61000-3-3, CE

Materials

Housing:
ABS

Back plate:
18-Gauge Mild Steel, Black Electro-Coat

DIN Rail Brackets:
18-Gauge Mild Steel, Black Electro-Coat



Connectors

Sensor	2 - Male 4 Pin M8
IO	1 - 4 Pin Molex SLTM Modular Connector
PC	1 - RJ-45/ RS-422 Serial
Modbus	1 - RJ-45/ RS-485 - Modbus RTU

Software requirements

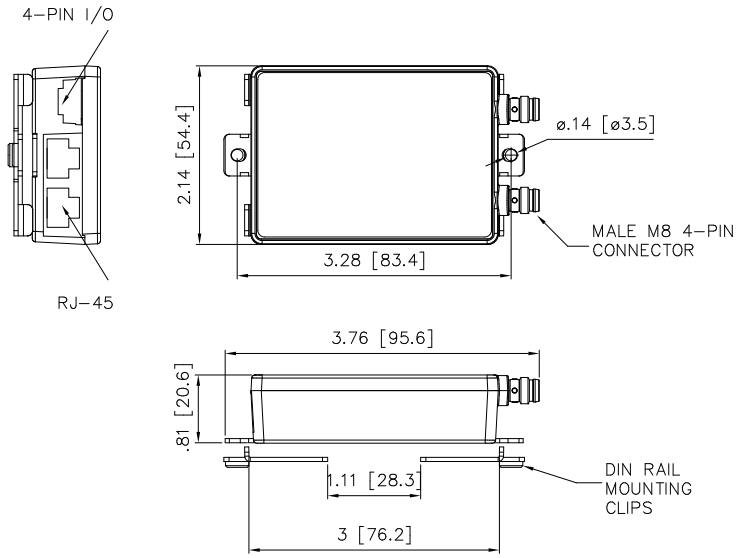
- PC with an available USB Port
- Windows 8 (32-/64-bit)/ 7 (32-/64-bit)/ Vista (32-/64-bit), XP (32-/64-bit)/ Server 2003 and 2008 (32/64-bit)/ Server 2008 R2

Electrical & EMS Specifications

Input voltage	11 to 24 VDC Regulated
Current draw (SIM and 2 Sensors)	<100 mA @ 12 VDC
EMC rating	Emissions & immunity to EN 61326:2013
Electro static discharge	4 kV Contact 8 kV Air, 4 kV Indirect
Radiated immunity	10 V/m from 80 - 1000 MHz, 3 V/m from 1.4 to 2.0 GHz 3 V/m from 2.0 to 2.7 GHz Amplitude modulated with a 1 kHz sine wave to a depth of 80%.
Fast transient burst	±0.5 KV on all ports (±1kV on AC Power)
Immunity to conducted disturbances	3V rms 0.15-80 MHz, 80% AM Modulation, @ 1 kHz

Dimensions

Inches [mm]



INTELLISENSE® PRESSURE/TEMPERATURE SENSOR

NISS-1A-7SS

- Proprietary communication protocol for use with an IntelliSense® SIM
- 10-32 thread SS pressure port
- IP69K rated when used with appropriate cables

Technical Data

IP rating:
Up to IP69K based on cables used
Operating Temperature Range:
-40°C...176°C (-40°F...176°F)
Vibration:
18-20G @ 80-2000Hz - 1hr - Random
Shock:
30G 10,000 times each axis and direction
Mounting options:
35mm DIN Rail using Brackets
Flush mounted using Screw Hole

Materials

Housing:
303 Stainless steel
Port:
303 Stainless steel
Sensor Isolation Barrier Retaining Ring:
304 Stainless Steel
Sensor Isolation Barrier:
Silicone Gel
O-Ring Seal:
Buna-N

Pressure sensing performance specifications

Model	Operating Pressure	Overpressure Rating	Burst Pressure	Resolution	Accuracy*	Response Time	Long Term Stability
							
NISS-1A-7SS	0 bar(a) to 14 bar(a) (0 psia to 200 psia)	2X maximum operating pressure	5X maximum operating pressure	0.001 bar (0.01 psi)	±0.29 psi (±20 mbar) ±0.58 psi (±40 mbar)	1 ms	-0.29 psi/year (-20 mbar/year)

*Accuracy 0 bar to 6 bar (0 psi to 87 psi), 0°C to 40°C (-32°F to 40°C), -40°C to 85°C (-40°F to 85°C)

Temperature Sensing Performance Specifications

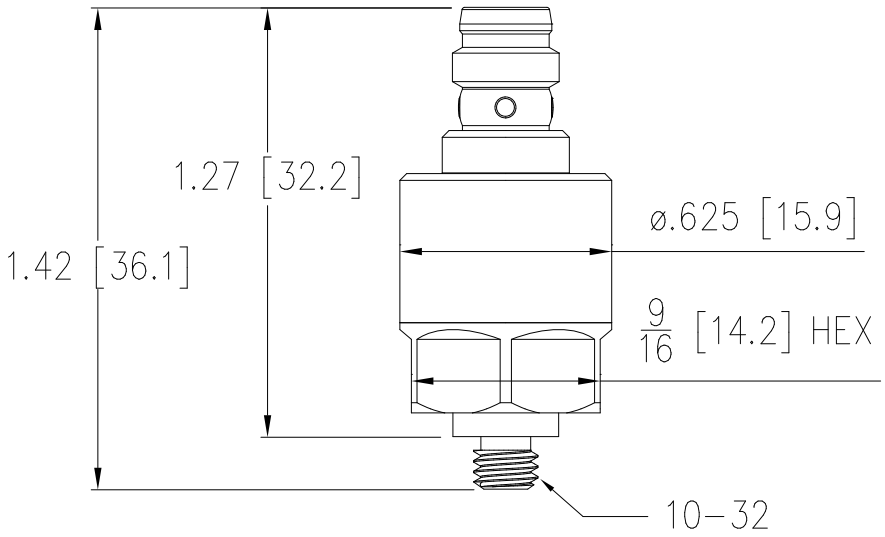
Temperature range	-15°C to 60°C (-9°F to 127°F)
Resolution	0.01°C (<0.02°F)
Accuracy	10°C (±18°F)

Electrical & EMS Specifications

Power	Supplied by SIM via Sensor Cable
EMC Rating	Emissions and Immunity to EN 61326:2013
Electro Static Discharge	4 kV Contact, 8 kV Air, 4 kV Indirect
Radiated Immunity	"10 V/m from 80 - 1000 MHz, 3 V/m from 1.4 to 2.7 GHz Amplitude modulated with a 1 kHz sine wave to a depth of 80%"
Fast Transient Burst	±0.5 KV
Immunity to Conducted Disturbances	3V rms 0.15-80 MHz, 80% AM Modulation @ 1 kHz

Dimensions

Inches [mm]



INTELLISENSE® FITTING

NISF-T1 4 mm, 6 mm, 8 mm, 10 mm, 5/32", 1/4", 5/16", 3/8"

In-line push to connect fitting

- For use with PE, PA, and 95-D Polyurethane tubing
- Metric and imperial sizes 4mm, 6mm, 8mm, 10mm, 5/32", 1/4", 5/16", 3/8"
- #10-32 thread port
- Nickel plated brass
- Buna-N seals

Technical Data

Operating temperature range:
0°C...60°C (32°F...140°F)
Operating pressure range:
1 bar...11.4 bar
(14.7 psia...164.7 psia)
Overpressure minimum rating:
18.3 bar (264.7 psia)

Materials

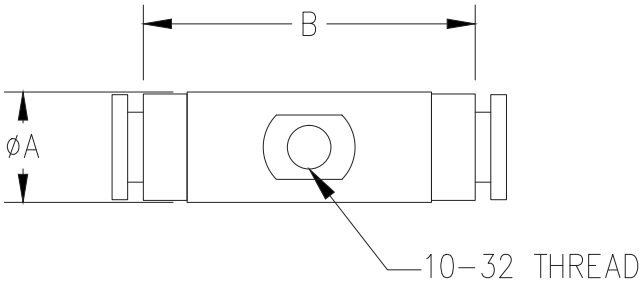
Body:
Nickel Plated Brass
Collet:
Stainless Steel
O-Ring Seal:
Buna-Na

Recommended tubing

- Nylon
- PE
- 95-D Polyurethane

Dimensions

Inches [mm]



Model	Tube Size	ø A	B
NISF-T1-006	6 mm	1.42 [36.07]	0.47 [11.94]
NISF-T1-010	10 mm	1.62 [41.15]	0.63 [16.00]
NISF-T1-156	5/32" or 4 mm	1.26 [32.00]	0.47 [11.94]
NISF-T1-250	1/4"	1.42 [36.07]	0.47 [11.94]
NISF-T1-313	5/16" or 8 mm	1.54 [39.12]	0.55 [13.97]
NISF-T1-375	3/8"	1.62 [41.15]	0.63 [16.00]

Accessories

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering accessories range. If you can't see the option you require please contact us.

IntelliSense® Data Gateway

NISF-01
Data Gateway

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IntelliSense® Junction Block

NISH-R04
Junction Block

Page 26

Communications Hub

NISH-D04
RS422 to USB

Page 27

Power Supply

NP7R-020A24-DIN
24 V d.c. Power Supply

Page 28

Fitting

NISP-S1
Stainless steel fitting
1/8" ... 1 1/2"

Page 29

Other Accessories

N1SG-BRKTN
IntelliSense® Data Gateway DIN Rail Bracket

Page 30

NCBL-IS-M8
IntelliSense® Sensor Cable
2.0 metres, 5.0 metres
IP69K rated

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NCBL-IS-CF-0.5
IntelliSense® IO Cable
0.5 metres

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NCBL-IS-RU-1.8
IntelliSense® 1USB Programming Cable
1.8 metres

Page 30

NCBL-IS-RD
IntelliSense® DB9 to RJ45 Serial Cable
0.5 metres, 2.0 metres

Page 30

INTELLISENSE® DATA GATEWAY

NISG-01

- Remote monitoring for up to 12 SIMs
- Ethernet and wireless connectivity
- Data logging capabilities with 100+ GB of storage
- Includes IntelliSense® Data Gateway DIN rail bracket

Technical Data

Operating temperature range:
0°C to 55°C
(32°F to 131°F)
Relative humidity:
5-95% Non-condensing
Mounting options:
35 mm DIN Rail using Brackets
Flush Mounted using Screw Hole
Certifications:
UL60950: Information Technology - Equipment - Safety - Part 1: General Requirements

Materials

Housing:
Plastic and aluminium
Bracket:
18-Guage mild steel, Black Electro-coat

Electrical and EMS Specifications

Input voltage	19 V d.c., 65 W
Power supply	100-240 V a.c./1.5A

Connectors

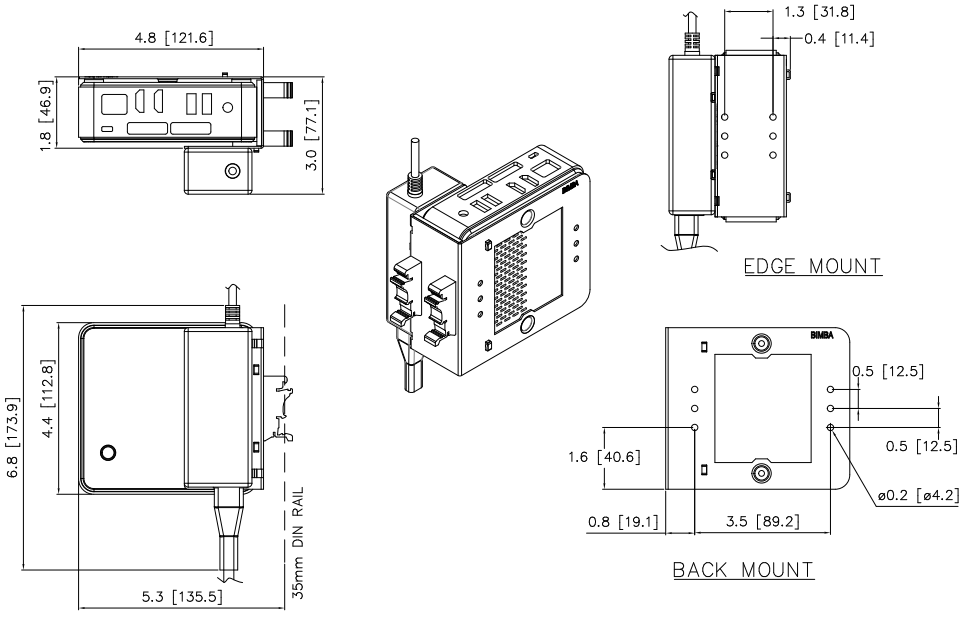
USB 2.0	Quantity 3
Gigabit Internet	Quantity 1
19 V, 65 W DC Power Connector	Quantity 3

Included accessories

- IntelliSense® Remote Monitoring & Configuring Software
- USB Wi-fi Adaptor
- USB Extension Cable 3' (0.9 m)
- IntelliSense® Data Gateway Mounting Bracket
- 100-240 V a.c. 10 19 V DC Power Supply

Dimensions

Inches [mm]



INTELLISENSE® JUNCTION BLOCK

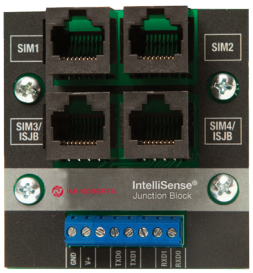
NISH-R04

Modbus and power Junction Block

- Four RJ45 Connections
- One terminal block
- Power injector for multiple SIM
- Networking aid for Modbus
- DIN Rail mountable

Technical Data

Mounting options:
35 mm DIN Rail using brackets
Certifications:
RoHS

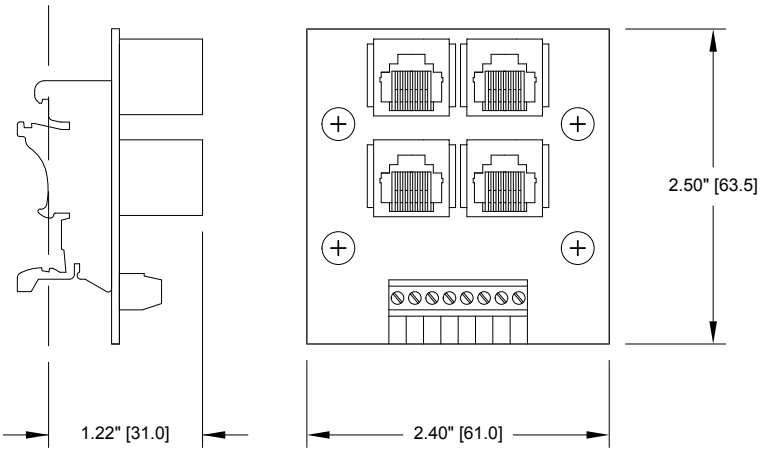


Connectors

USB 2.0	Quantity 3
Gigabit Internet	Quantity 1
19 V, 65 W DC Power Connector	Quantity 3

Dimensions

Inches [mm]



COMMUNICATIONS HUB

NISH-D04 – RS422 TO USB

4-Port USB to RS-422/485 Serial Adapter

- Serial communication speeds up to 1Mbps
- RS-422 and RS-485 auto detect and switch
- LEDs for indicating TxD/RxD activity
- DIN Rail or panel mount support
- 1 USB connection
- 4 DB9 connection

Technical Data

Operating temperature range:
0°C to 55°C
(32°F to 130°F)
Relative humidity:
5-95% Non-condensing
Mounting options:
35 mm DIN Rail using Brackets
Flush Mounted using Screw Hole
Certifications:
FCC, CE & RoHS Compliant

Materials

Housing:
Plastic and aluminium
Bracket:
18-Guage mild steel,
Black Electro-coat

Electrical

Input voltage	Power Supplied by USB External 5 V Optional
Power supply	±15 kV on All Signal Pins

Software requirements

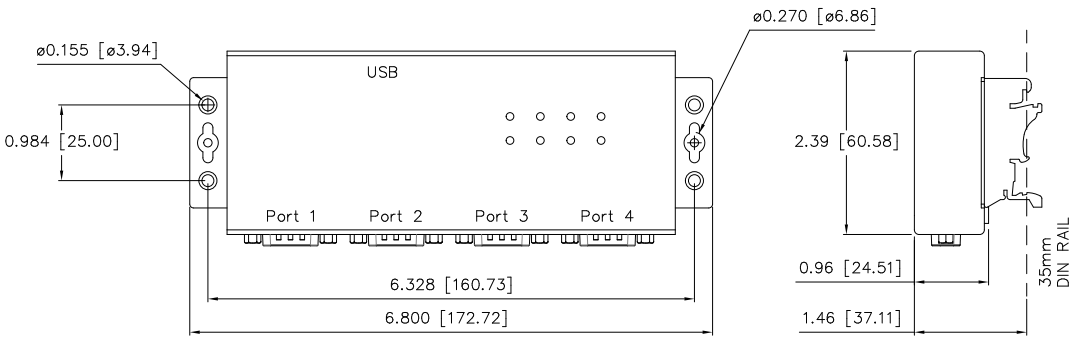
- IntelliSense® Data Gateway or Windows PC with an available USB Port
- Windows 8 (32-/64-bit) / 7 (32-/64-bit) / Vista (32-/64-bit), XP (32-/64-bit) / Server 2003 and 2008 (32-/64-bit) / Server 2008 R2

Connectors

USB Input	1 - Type B (4-Pin), Female
DB9 Output	4 - 9-Pin, D-Sub, Male
5V Power	Optional
USB Data Cable Included	3.28 ft. [1 m]

Dimensions

Inches [mm]



POWER SUPPLY

NPWR-020A24-DIN – 24 V D.C.

- Universal AC input (88-264V AC)
- Protections: Short Circuit / Overload / Over-voltage
- Brown-out protection
- DIN Rail TS35 / 7.5 or 15 mountable
- UL1310 Class 2 Power unit / LPS pass
- UL508 (Industrial control equipment) listed

Technical Data

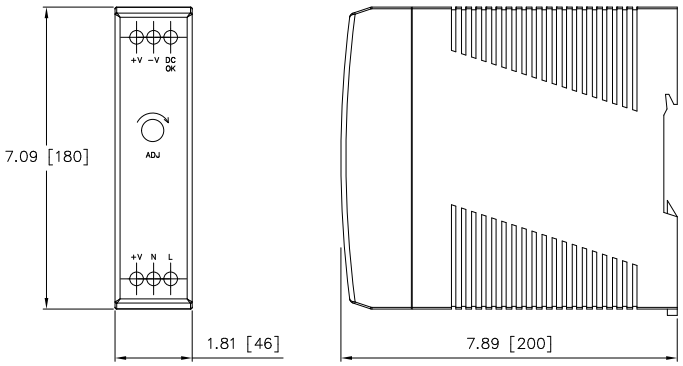
Operating temperature range:
-20°C to 65°C
(-4°F to 149°F)
Relative humidity:
20-95% Non-condensing
Vibration:
10 ~ 500Hz, 2G 10 min./1 cycle,
60 min.each long X, Y, Z axes
Certifications:
UL508, TUV EN60950-1:200+A11, UL 1310 NEC class 2 compliant
Protection:
Overload/Over voltage
Installation:
35 mm DIN Rail
Harmonic Current:
EN61000-3-2:2006 Class A,
EN61000-3-2:2008
EMS Immunity
EN61204-3:2000,
EN55024:1998+A1:2001+A2:2003
Light Industry Level, Criteria A

Electrical MS Specifications

Output Voltage	24 V d.c.
Maximum Output Current	1 A
Input Voltage	AC 85 - 264 V a.c.
Withstand Voltage	I/P-O/P: 4242DC I/P-FG: 2121DC 1 minute
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500V d.c.
EMI Conduction and Radiation	EN55022:2006+A1:2007 Class B

Dimensions

Inches [mm]



STAINLESS STEEL FITTING

NISP-S1 1/8" ... 1 1/2"

- 10-32 thread port
- Stainless steel
- Replace standard push-to-connect fittings

Technical Data

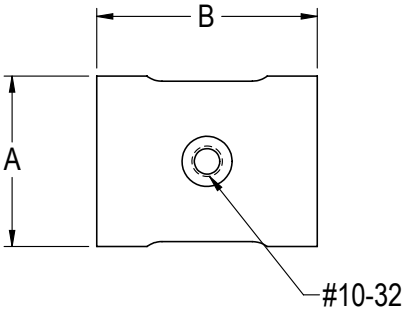
Operating temperature range:
-40°C to 80°C
(-40°F to 176°F)
Operating pressure range:
0 bar (a) to 14 bar (a)
(0 psia to 200 psia)
Overpressure minimum rating:
70 bar (1015 psia)

Materials

Body:
Stainless steel

Dimensions

Inches [mm]



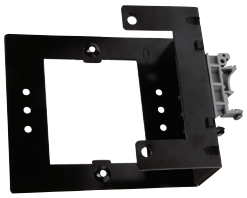
Model	NPT Thread	ø A	ø B
NISF-S1-125	1/8"	0.63 [16.00]	1.00 [25.40]
NISF-S1-250	1/4"	0.75 [19.05]	1.13 [28.70]
NISF-S1-375	3/8"	0.88 [22.35]	1.13 [28.70]
NISF-S1-500	1/2"	1.06 [26.92]	1.38 [35.05]
NISF-S1-750	3/4"	1.31 [33.27]	1.50 [38.10]
NISF-S1-1000	1"	1.63 [41.40]	1.75 [44.45]
NISF-S1-1500	1-1/2"	2.25 [57.15]	2.13 [54.10]

INTELLISENSE®

OTHER ACCESSORIES

N1SG-BRKTN IntelliSense® Data Gateway DIN Rail Bracket

- Replacement DIN Rail mounting steel bracket for an IntelliSense® Data Gateway.



NCBL-IS-M8-2, NCBL-IS-M8-5 IntelliSense® Sensor Cable

- 2.0 m or 5.0 m length
- 90º four pin female Micro M8 Connector
- Straight four pin female Micro M8 Connector
- Connect SIM to Sensor
- 2.0 m cables included with Starter Kit and Data Starter Kit
- IP69K rated

NCBL-IS-CF-0.5 IntelliSense® 0.5 m IO Cable

- 0.5 m length
- Molex 50-57-9404 4 Pin Connector
- Flying lead
- Supply end of travel outputs to PLC or supply power to SIM
- Included with Starter Kit and Data Starter Kit

NCBL-IS-RU-1.8 IntelliSense® 1.8 m USB Programming Cable

- 1.8 m length
- Required to configure SIM
- Connect SIM to PC or Data Gateway
- Included with Starter Kit and Data Starter Kit

NCBL-IS-RD-0.5, NCBL-IS-RD-2 IntelliSense® DB9 to RJ45 Serial Cable

- 0.5 m or 2.0 m length
- Connect SIM to RS422 to USB HUB

For further information, scan this QR code or visit
www.imi-precision.com

1

KITS

TECHNICAL DATA

2

SERVICE PARTS

INTELLISENSE® SENSOR INTERACE MODULE (SIM)
INTELLISENSE® PRESSURE/ TEMPERATURE SENSOR
INTELLISENSE® FITTING

3

ACCESSORIES

INTELLISENSE® DATA GATEWAY
INTELLISENSE® JUNCTION BLOCK
COMMUNICATIONS HUB
POWER SUPPLY
STAINLESS STEEL FITTING
OTHER ACCESSORIES

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