

# Spectrum F112-NBN80052BA-BD

Explosion-Proof Fixed Camera

## Key Features

- Remarkable low-light performance
- 5MP (3K) high detail at fast speeds (30fps)
- Built-in intelligent Video Analytics
- Low network strain and storage costs
- Outstanding wide dynamic range
- Front Glass Protective Film (F1XX-TO) included
- Reliable Securing Kit included
- Made in USA
- NDAA-Compliant
- cFMus, Class I/II/III, Division 1, Zone 1/21, IECEx, ATEX, INMETRO, UKCA and PESO approved
- Operating Temperature:
  - Zone System: -50°C to +50°C
  - (USA) Class/Division System: -40°C to +50°C

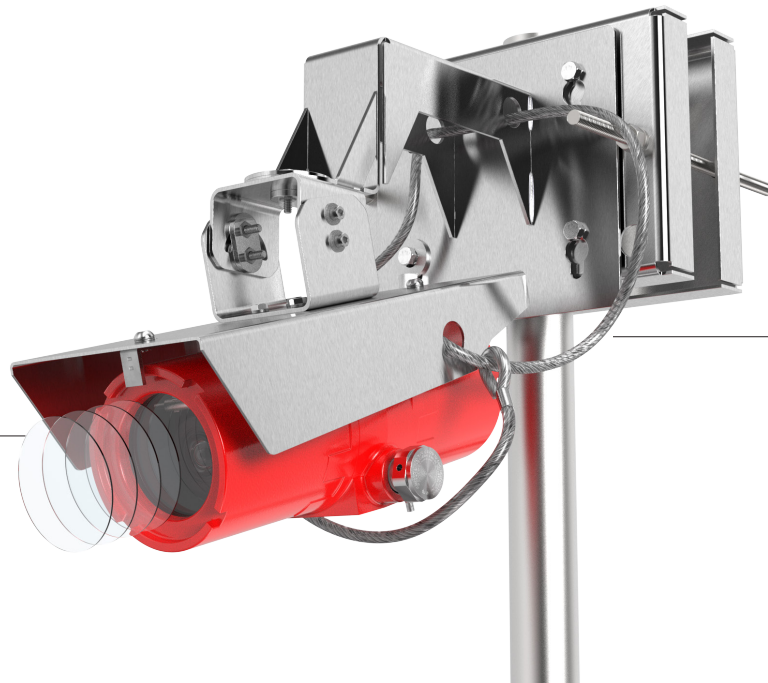


**BOSCH Camera Inside**



## Description

Spectrum F112-NBN80052BA-BD explosion-proof network camera delivers clear images 24/7 - even at night or under low-light conditions. Enclosed in a red aluminum explosion-proof housing, it's certified (cFMus, IECEx, ATEX, INMETRO, UKCA and PESO) for use in potentially combustible environments. Furthermore, the camera produces multi-megapixel full-color video in near darkness, and delivers detailed monochrome images where other cameras show no image at all.



### F1XX-TO

Front Glass Protective Film  
4-Layer peel off design

### SF-RSK

Reliable Securing Kit

# Specifications

## Spectrum F112-NBN80052BA-BD

| Sensor (1080p version)            |                                                                                                                                                                                                                                                  | Lens Connector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Sensor Type                       | 1/1.8" CMOS                                                                                                                                                                                                                                      | 4 Pin DC Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Effective Pixels                  | 6.1 MP                                                                                                                                                                                                                                           | Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Sensor                            | Bosch NBN-80052-BA                                                                                                                                                                                                                               | Zoom Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Video Performance - Dynamic Range |                                                                                                                                                                                                                                                  | Focus Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 5.5MP (4:3) mode                  | 97 dB WDR (97+16 dB with IAE)                                                                                                                                                                                                                    | <b>Technical Specs of Camera with regard to lens</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| 5MP (16:9) mode                   | 97 dB WDR (97+16 dB with IAE)                                                                                                                                                                                                                    | Sensor Size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 1080p mode                        | 103 dB WDR (103+16 dB with IAE)                                                                                                                                                                                                                  | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Video performance - Sensitivity   |                                                                                                                                                                                                                                                  | Lens Mount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Color 5MP mode                    | 0.0121 lx                                                                                                                                                                                                                                        | Lens Connector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Color 1080p mode                  | 0.00825 lx                                                                                                                                                                                                                                       | Lens Types                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Mono 5MP mode                     | 0.004 lx                                                                                                                                                                                                                                         | <b>General</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Mono 1080p mode                   | 0.00275                                                                                                                                                                                                                                          | Casing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Video Streaming                   |                                                                                                                                                                                                                                                  | Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Video compression                 | H.264 (MP); M-JPEG                                                                                                                                                                                                                               | Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Streaming                         | Multiple configurable streams in H.264 and M-JPEG, configurable frame rate and bandwidth. Regions of interest (ROI)                                                                                                                              | Power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Overall IP Delay                  | Min. 120 ms, Max. 340 ms                                                                                                                                                                                                                         | Storage Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| GOP Structure                     | IP, IBP, IBBP                                                                                                                                                                                                                                    | Operating Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| Encoding interval                 | 1 to 30 [25 fps]                                                                                                                                                                                                                                 | Warranty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Encoder regions                   | Up to 8 areas with encoder quality settings per area                                                                                                                                                                                             | Approvals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Video Resolution                  |                                                                                                                                                                                                                                                  | <b>Hazardous Area</b><br>FM3600, FM3615, ANSI/ISA/EN/IEC/CAN/CSA-C22.2 60079-0, ANSI/UL/EN/IEC/CAN/CSA-C22.2 60079-1, ANSI/UL/EN/IEC/CAN/CSA-C22.2 60079-31                                                                                                                                                                                                                                                                                                                                                                     |  |
| 5MP (16:9)                        | 2992 x 1680                                                                                                                                                                                                                                      | <b>EMC</b><br>EN 55032 Class A, EN 50121-4, IEC 62236-4, EN 55024, EN 61000-6-1, EN 61000-6-2, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, RCM AS/NZS CISPR 32 Class A, KC KN32 Class A, KC KN35                                                                                                                                                                                                                                                                                                             |  |
| Video Content Analysis            |                                                                                                                                                                                                                                                  | <b>Safety</b><br>IEC/EN/UL 60950-22, IEC/EN/UL 62368-1, IS 13252                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Analysis type                     | Intelligent Video Analytics                                                                                                                                                                                                                      | <b>Environment</b><br>IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, IEC/EN 60529 IP66/IP67, IEC/EN 62262 IK10, NEMA 250 Type 4X, NEMA TS 2 (2.2.7-2.2.9)                                                                                                                                                                                                                                                                                                                         |  |
| Configurations                    | Silent VCA / Profile 1 / Profile 2 / Event Triggered / Scheduled                                                                                                                                                                                 | <b>Network</b><br>NIST SP500-267                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Alarm rules (combinable)          | Any object<br>Object in field<br>Crossing line<br>Entering field<br>Leaving field<br>Loitering<br>Following route<br>Idle object<br>Removed object<br>Counter Occupancy<br>Crowd detection<br>Condition change<br>Similarity search<br>Tampering | <b>Explosion-proof Certifications</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Object filters                    | Duration<br>Size<br>Aspect ratio v/h Speed Direction<br>Color<br>Object classes (Upright persons, Bikes, Cars, Trucks)                                                                                                                           | <b>USA:</b><br>Class I Division 1 Groups BCD T6 Ta= -40°C to +50°C, Type 4X, IP66<br>Class II/III Division 1 Groups EFG Ta= -40°C to +50°C, Type 4X, IP66<br>Certificate: FM18US0262X<br>Canada:<br>Class I Division 1 Groups BCD T6 Ta= -50°C to +50°C, Type 4X, IP66<br>Class II/III Division 1 Groups EFG Ta= -50°C to +50°C, Type 4X, IP66<br>Class I, Zone 1, AEx/Ex db IIB+H2 T5 Gb Ta = -50°C to +50°C, Type 4X, IP66<br>Zone 21, AEx/Ex tb IIIC T85°C Db Ta = -50°C to +50°C, Type 4X, IP66<br>Certificate: FM18CA0126X |  |
| Optical                           |                                                                                                                                                                                                                                                  | <b>ATEX:</b><br>II 2 G Ex db IIB+H2 T5 Gb Ta = -50°C to +50°C, IP66<br>II 2 D Ex tb IIIC T85°C Db Ta = -50°C to +50°C, IP66<br>Certificate: FM18ATEX0073X                                                                                                                                                                                                                                                                                                                                                                       |  |
| Lens Mount                        | CS mount (C-mount with adapter ring)                                                                                                                                                                                                             | <b>IECEX:</b><br>Ex db IIB+H2 T5 Gb Ta = -50°C to +50°C, IP66 Ex tb IIIC T85°C Db Ta = -50°C to +50°C, IP66<br>Certificate: IECEX FMG 18.0029X                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Lens connector                    | Standard 4-pin DC-iris connector / P-iris connector                                                                                                                                                                                              | <b>INMETRO:</b><br>Ex db IIB+H2 T5 Gb Ta = -50°C to +50°C, IP66<br>Ex tb IIIC T85°C Db Ta = -50°C to +50°C, IP66<br>Certificate: NCC 20.0084 X                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Focus control                     | Motorize back-focus adjustment                                                                                                                                                                                                                   | <b>PESO:</b><br>Ex db IIB+H2 T5 Gb Ta = -50°C to +50°C, IP66<br>Ex tb IIIC T85°C Db Ta = -50°C to +50°C, IP66<br>Certificate: IECEX FMG 18.0029X<br>Approval No: A/P/HQ/MH/104/7899 (P578984)                                                                                                                                                                                                                                                                                                                                   |  |
| Lens Option: LV-5005C-C4109       |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Sensir Size                       | 1/1.8 inch                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Resolution                        | 5 MP                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Iris Range                        | F1.6 - F8                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Focal Length                      | 4.1 - 9mm                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Lens Mount                        | CS                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |

Approvals & Dimensions



**SPECTRUM**  
CAMERA SOLUTIONS

SPECIALIZING IN EXPLOSION PROOF TECHNOLOGY  
8935 ALMEDA GENOA RD. HOUSTON, TEXAS 77075 USA

SERIAL:



**FM**  
APPROVED

MADE IN USA

CERT NO.  
FM18US0262X & FM18CA0126X

**MODEL: F112-NBN-80052-BA-BD**  
INPUT: IEEE 802.3af, 9W;  
HEATER: 12-24 VAC/VDC, 25W



2809



**UK**  
**CA**  
1725

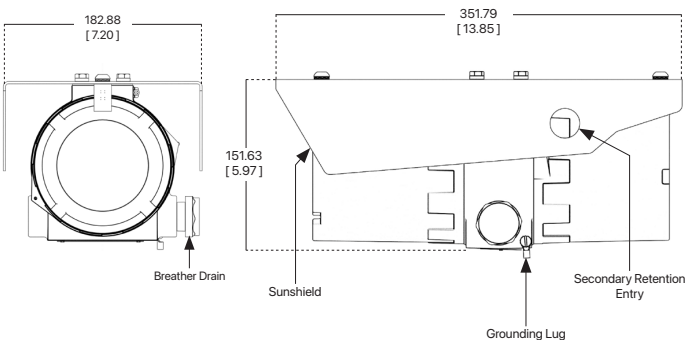
US: Class I Division 1 Groups BCD T6 Ta= -40°C to +50°C, Type 4X, IP66  
Class II/III Division 1 Groups EFG T6 Ta= -40°C to +50°C, Type 4X, IP66  
Canada: Class I Division 1 Groups BCD T6 Ta= -50°C to +50°C, Type 4X, IP66  
Class II/III Division 1 Groups EFG T6 Ta= -50°C to +50°C, Type 4X, IP66  
Zone 21, AEx/Ex db IIB+H2 SEE TABLE FOR CODE Gb Ta = -50°C to +50°C, Type 4X, IP66  
Zone 21, AEx/Ex tb IIIC T85°C Db Ta = -50°C to +50°C, Type 4X, IP66  
II 2 G Ex db IIB+H2 SEE TABLE FOR CODE Gb Ta = -50°C to +50°C, Type 4X, IP66  
II 2 D Ex tb IIIC T85°C Db Ta = -50°C to +50°C, IP66

| CODE | CONFIGURATION        |
|------|----------------------|
| T5   | WITH BREATHEDRAIN    |
| T6   | WITHOUT BREATHEDRAIN |



WARNING: DO NOT OPEN WHEN ENERGIZED OR WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT. Install seal within 18 inches. For Zones, install seal at entry. WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTION. USE 80°C OR HIGHER RATED CONDUCTORS.

AVERTISSEMENT: NE PAS OUVRIRE LORSQU'EN ENERGIE OU QUAND UNE ATMOSPHERE EXPLOSIVE PEUT ETRE PRESENTE. Les joints de fermeture sont obligatoires dans une distance de 18 pouces. Pour les zones, installez un sceau à l'entrée. AVERTISSEMENT - RISQUE DE CHARGE ÉLECTROSTATIQUE POTENTIEL - VOIR LES INSTRUCTIONS. UTILISEZ DES CONDUCTEURS COTÉS DE 80° C OU PLUS.





**SPECTRUM**  
CAMERA SOLUTIONS

SPECIALIZING IN EXPLOSION PROOF TECHNOLOGY  
8935 ALMEDA GENOA RD. HOUSTON, TEXAS 77075 USA

No. DE SÉRIE:

FABRICADO NO EUA

CERT NO. NCC 20.0084 X

**MODELO: F112-NBN80052BA-BD**  
**ALIMENTAÇÃO: 57 VDC, 9W;**  
**12-24 VAC/VDC, 25W**



**Segurança**

**INMETRO** OCP 0034

**NCC 20.0084 X**

NCC 20.0084 X

Ex db IIB+H2 T5 Gb Ta = -50°C to +50°C, IP66  
Ex tb IIIC T85°C Db Ta = -50°C to +50°C, IP66



ATENÇÃO: NÃO ABRA ENQUANTO ENERGIZADO OU QUANDO ATMOSFERA EXPLOSIVA PUDE ESTAR PRESENTES. INSTALAR O ANEL DE VEDAÇÃO DA ENTRADA. ATENÇÃO - RISCO POTENCIAL DE CARGAS ELETROSTÁTICAS - VER INSTRUÇÕES. USAR CONDUCTORES ADEQUADOS PARA TEMPERATURAS ATÉ 80°C. ATENÇÃO - NÃO ABRIR QUANDO ENERGIZADO. ATENÇÃO - RISCO POTENCIAL DE CARGA ELETROSTÁTICA - VER INSTRUÇÕES