中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
DB24PTB00125

型式认可证书
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。
This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

Furuno Electric Co., Ltd.

地址/Address

9-52 Ashihara-cho, Nishinomiya City, Hyogo , Japan

产品名称/Product

雷达设备 (X波段)
Radar equipment (X-band)

附加标志/Notations

无/Nil.

认可标准/Approval Standard

1. 国际海事组织海安会决议MSC.192(79)《经修订的〈关于雷达设备性能标准的建议案〉》
IMO Resolution MSC.192(79) Adoption of the Revised Performance Standards for Radar Equipment
2. IEC 62388:2013/COR1:2014 Edition 2.0 (2014-02-12)《导航和无线电设备-船用雷达-性能要求、测试方法和要求的测试结果》
IEC 62388:2013/COR1:2014 Edition 2.0 (2014-02-12) Maritime navigation and radiocommunication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results
3. IEC 60945:2002/COR1:2008《船用航行和无线电通信设备及系统-通用要求-试验方法和试验结果的要求》
IEC 60945:2002/COR1:2008 Maritime Navigation and Radiocommunication Equipment and Systems –General Requirements – Methods of Testing and Required Test Results
4. 国际海事组织大会决议A.694(17)《作为全球海上遇险和安全系统（遇险和安全系统）组成部分的船载无线电设备和电子助航设备的一般要求》
IMO Resolution A.694(17) General Requirements for Shipborne Radio Equipment Forming Part of The Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids
5. 国际海事组织海安会决议MSC.191(79)《船载航行显示器有关航行信息显示的性能标准》
IMO Resolution MSC.191(79) Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays
6. 国际海事组织海安会决议MSC.466(101)《对船载航行显示器有关航行信息显示的性能标准(MSC.191(79))的修订》
IMO Resolution MSC.466(101) Amendments to the Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays (Resolution MSC.191(79))
7. 国际海事组织海安会决议MSC.302(87)《通过驾驶室警报管理性能标准》
IMO Resolution MSC.302(87) Adoption of performance standards for Bridge Alert Management

证书有效期至/This Certificate is valid until **2027年01月17日/ Jan. 17,2027**

发证机构 中国船级社大阪分社
Issued by CCS Osaka Branch

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Date Feb. 24,2025

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8.中华人民共和国海事局《船舶与海上设施法定检验规则－国内航行海船法定检验技术规则》2020及2022修改通报第4篇第5章
Chapter 5,Part Four of P.R. China MSA Regulation for Statutory Survey of Ships and Offshore Installations-Regulation for Statutory Survey of Sea-Going Ships Engaged in Domestic Voyages 2020 and its Amendment 2022
9.中华人民共和国海事局《船舶与海上设施法定检验规则－内河船舶法定检验技术规则》2019 第5篇第6章
Chapter 6, Part Five of P.R. China MSA Regulation for Statutory Survey of Ships and Offshore Installations- Regulation for Statutory Survey of Ships Engaged in Inland Voyages 2019
10.中华人民共和国海事局《船舶与海上设施法定检验规则－远洋渔船法定检验技术规则》2019 第11篇第2章
Chapter 2, Part Eleven of P.R. China MSA Regulation for Statutory Survey of Ships and Offshore Installations- Regulation for Statutory Survey of Ocean Fishing Vessels 2019
11.国际电讯联盟建议书 ITU-R M.1177-4(04/2011) 《对于雷达系统无用发射的测量技术》
ITU-R M.1177-4(04/2011) Techniques for Measurement of Unwanted Emissions of Radar Systems

用于/Intended for

国际航行海船/International sea-going ship
国内航行海船/Domestic sea-going ship
内河船舶/Inland waters ship
远洋渔船/Ocean Fishing vessels

产品明细/Product Description

雷达设备/Radar Equipment(M0001)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	FAR-2218 (CAT 2/2H)	
系统组成/System Component	Antenna unit: XN12CF-RSB128/ XN20CF-RSB128/ XN24CF-RSB128 Transceiver unit: RTR-105 Processor unit: RPU-025 Monitor unit: MU-190/MU-190FCN/MU-192 Control unit: RCU-014/015	
峰值功率/Peak of Output Power	12	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230 DC24	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	250	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 2.15(STAND), 1.40(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-190: 1.65(STAND), 1.05(STEER) MU-190FCN: 0.40(STAND); 0.15(STEER) MU-192: 0.70(STAND); 0.45(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	30	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	30	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	150	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	

是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0002)

名称/Name	**属性（值）/Value**	**单位/Unit**
型号/Type	FAR-2228 (CAT 2/2H)	
系统组成/System Component	Antenna unit: XN12CF-RSB128/ XN20CF-RSB128/ XN24CF-RSB128 Transceiver unit: RTR-106 Processor unit: RPU-025 Monitor unit: MU-190/MU-190FCN/MU-192 Control unit: RCU-014/015	
峰值功率/Peak of Output Power	25	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230 DC24	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	250	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 2.45(STAND), 1.60(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-190: 1.65(STAND), 1.05(STEER) MU-190FCN: 0.40(STAND); 0.15(STEER) MU-192: 0.70(STAND); 0.45(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	30	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	30	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	150	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	

是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0003)

名称/Name	**属性（值）/Value**	**单位/Unit**
型号/Type	FAR-2228-NXT (CAT 2/2H)	
系统组成/System Component	Antenna unit: XN12CF-RSB128/ XN20CF-RSB128/ XN24CF-RSB128 Transceiver unit: RTR-123 Processor unit: RPU-025 Monitor unit: MU-190/MU-190FCN/ MU-192 Control unit: RCU-014/015	
峰值功率/Peak of Output Power	0.6	kW
工作频率/Operating Frequency	PON: 9403.75/9413.75 ±5 PON: 9423.75/9433.75 ±5	MHz
额定电压/Rated Voltage	AC100~230	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	250	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32B	
罗经安全距离/Compass Safe Distance	Antenna Unit: 1.15(standard), 0.70(steering) RPU-025: 2.85(STANDARD), 1.80(STEERING) MU-190: 1.65(STANDARD), 1.05(STEERING) MU-190FCN: 0.40(STAND); 0.15(STEER) MU-192: 0.70(STAND); 0.45(STEER) RCU-014: 0.50(STANDARD), 0.30(STEERING) RCU-015: 0.95(STANDARD), 0.60(STEERING)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	30	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	30	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	150	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0004)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	FAR-2318 (CAT 1/1H)	
系统组成/System Component	Antenna unit: XN12CF-RSB128/ XN20CF-RSB128/ XN24CF-RSB128 Transceiver unit: RTR-105 Processor unit: RPU-025 Monitor unit: MU-231/MU-270W/HD26T22FUD- MA1/HD27T22FUD/WE270FU Control unit: RCU-014/015	
峰值功率/Peak of Output Power	12	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230 DC24	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	320	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 2.15(STAND), 1.40(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-231: 0.85(STAND), 0.55(STEER) MU-270W: 0.90(STAND), 0.55(STEER) HD26T22FUD-MA1: 1.80(STAND), 0.95(STEER) HD27T22FUD: 1.90(STAND), 1.10(STEER) WE270FU: 1.77(STAND), 1.11(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	40	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	200	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0005)

名称/Name	属性（值）/Value	单位/Unit

型号/Type	FAR-2328 (CAT 1/1H)	
系统组成/System Component	Antenna unit: XN12CF-RSB128/ XN20CF-RSB128/ XN24CF-RSB128 Transceiver unit: RTR-106 Processor unit: RPU-025 Monitor unit: MU-231/MU-270W/HD26T22FUD-MA1/HD27T22FUD/ WE270FU Control unit: RCU-014/015	
峰值功率/Peak of Output Power	25	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230 DC24	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	320	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 2.45(STAND), 1.60(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-231: 0.85(STAND), 0.55(STEER) MU-270W: 0.90(STAND), 0.55(STEER) HD26T22FUD-MA1: 1.80(STAND), 0.95(STEER) HD27T22FUD: 1.90(STAND), 1.10(STEER) WE270FU: 1.77(STAND), 1.11(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	40	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	200	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0006)

名称/Name	**属性（值）/Value**	**单位/Unit**
型号/Type	FAR-2328-NXT (CAT 1/1H)	

系统组成/System Component	Antenna unit: XN12CF-RSB128/ XN20CF-RSB128/ XN24CF-RSB128 Transceiver unit: RTR-123 Processor unit: RPU-025 Monitor unit: MU-231/MU-270W/HD26T22FUD-MA1/HD27T22FUD/ WE270FU Control unit: RCU-014/015	
峰值功率/Peak of Output Power	0.6	kW
工作频率/Operating Frequency	PON: 9403.75/9413.75 ±5 QON: 9423.75/9433.75 ±5	MHz
额定电压/Rated Voltage	AC100~230	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	320	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32B	
罗经安全距离/Compass Safe Distance	Antenna Unit: 1.15(STAND), 0.70(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-231: 0.85(STAND), 0.55(STEER) MU-270W: 0.90(STAND), 0.55(STEER) HD26T22FUD-MA1: 1.80(STAND), 0.95(STEER) HD27T22FUD: 1.90(STAND), 1.10(STEER) WE270FU: 1.77(STAND), 1.11(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	40	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	200	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0007)

名称/Name	**属性（值）/Value**	**单位/Unit**
型号/Type	FAR-2328W (CAT 1/1H)	

系统组成/System Component	Antenna unit: XN20CF-RSB130/ XN24CF-RSB130 Transceiver unit: RTR-108 Transceiver Unit: RTR-108 Processor unit: RPU-025 Monitor unit: MU-231/MU-270W/HD26T22FUD-MA1/HD27T22FUD/ WE270FU Control unit: RCU-014/015	
峰值功率/Peak of Output Power	25	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230	V
天线长度/Length of Antenna	6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	320	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 1.90(STAND), 1.20(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-231: 0.85(STAND), 0.55(STEER) MU-270W: 0.90(STAND), 0.55(STEER) HD26T22FUD-MA1: 1.80(STAND), 0.95(STEER) HD27T22FUD: 1.90(STAND), 1.10(STEER) WE270FU: 1.77(STAND), 1.11(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	40	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	200	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0008)

名称/Name	**属性（值）/Value**	**单位/Unit**
型号/Type	FAR-2018-MARK-2 (CAT 1/1H/2/2H)	

系统组成/System Component	Antenna unit: XN12AF-RSB146/ XN20AF-RSB146/ XN24AF-RSB146 Transceiver unit: RTR-131 Processor unit: RPU-025 Monitor unit: CAT 2(H): MU-190/MU-190FCN/ MU-192 CAT 1(H): MU-231/MU-270W/ HD27T22FUD/ WE270FU Control unit: RCU-014/015	
峰值功率/Peak of Output Power	12	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	CAT 2(H): 250 CAT 1(H): 320	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 2.30(STAND), 1.45(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-190: 1.65(STAND), 1.05(STEER) MU-190FCN: 0.40(STAND); 0.15(STEER) MU-192: 0.70(STAND); 0.45(STEER) MU-270W: 0.90(STAND), 0.55(STEER) HD26T22FUD-MA1: 1.80(STAND), 0.95(STEER) HD27T22FUD: 1.90(STAND), 1.10(STEER) WE270FU: 1.77(STAND), 1.11(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	CAT 2(H): 30 CAT 1(H): 40	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	CAT 2(H): 30 CAT 1(H): 40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	CAT 2(H): 150 CAT 1(H): 200	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

雷达设备/Radar Equipment(M0009)

名称/Name	**属性（值）/Value**	**单位/Unit**
型号/Type	FAR-2028-MARK-2 (CAT 1/1H/2/2H)	

系统组成/System Component	Antenna unit: XN12AF-RSB146/ XN20AF-RSB146/ XN24AF-RSB146 Transceiver unit: RTR-132 Processor unit: RPU-025 Monitor unit: CAT 2(H): MU-190/MU-190FCN/ MU-192 CAT 1(H): MU-231/MU-270W/ HD27T22FUD/ WE270FU Control unit: RCU-014/015	
峰值功率/Peak of Output Power	25	kW
工作频率/Operating Frequency	9410	MHz
额定电压/Rated Voltage	AC100~230	V
天线长度/Length of Antenna	4/6.5/8	ft
最小操作显示区直径/Minimum Operation Display Area Diameter	CAT 2(H): 250 CAT 1(H): 320	mm
软件版本号/Software Version	0359377-03.xx	
性能监测器型号/Performance Monitor Type	PM-32A	
罗经安全距离/Compass Safe Distance	Antenna unit: 2.30(STAND), 1.45(STEER) RPU-025: 2.85(STAND), 1.80(STEER) MU-190: 1.65(STAND), 1.05(STEER) MU-190FCN: 0.40(STAND); 0.15(STEER) MU-192: 0.70(STAND); 0.45(STEER) MU-270W: 0.90(STAND), 0.55(STEER) HD26T22FUD-MA1: 1.80(STAND), 0.95(STEER) HD27T22FUD: 1.90(STAND), 1.10(STEER) WE270FU: 1.77(STAND), 1.11(STEER) RCU-014: 0.50(STAND), 0.30(STEER) RCU-015: 0.95(STAND), 0.60(STEER)	m
天线旋转速率/Rotation Rate of Antenna	24 (standard) 42 (high-speed-craft)	rpm
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	CAT 2(H): 30 CAT 1(H): 40	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	CAT 2(H): 30 CAT 1(H): 40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	CAT 2(H): 150 CAT 1(H): 200	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
是否集成电子标绘（EPA）功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动目标跟踪（ATA）功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	
是否集成自动雷达标绘（ARPA）功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
是否具有海图显示功能/Whether Include Chart Display Function	No	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No.: NP18A00708, NP20PPP01825, NP22PPP02079_2, NP22PPP03861_2, DL23PPP20143, DL24PPP20726

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No.： K03-17-1758
试验报告日期/ Test Report Date： 2013-08-19
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： FLI 12-13-058
试验报告日期/ Test Report Date： 2013-10-18
试验单位/ Laboratory: Furuno Labotech International Co., Ltd.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-2567
试验报告日期/ Test Report Date： 2017-05-01
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-2549
试验报告日期/ Test Report Date： 2017-05-12
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： P18-0006
试验报告日期/ Test Report Date： 2018-05-16
试验单位/ Laboratory: EKTOS Testing & Reliability Services A/S
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-17-018/019/020/021/022/023
试验报告日期/ Test Report Date： 2017-05-26
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： DOC206155-1
试验报告日期/ Test Report Date： 2017-08-16
试验单位/ Laboratory: HATTELAND DISPLAY AS
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-19-014/015/016/019
试验报告日期/ Test Report Date： 2019-04-16
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address: 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203 Japan

试验报告编号/ Test Report No.： K03-17-2892
试验报告日期/ Test Report Date： 2019-05-29
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-2885
试验报告日期/ Test Report Date： 2019-07-08
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-19-151/152/153/154/155/156
试验报告日期/ Test Report Date： 2019-09-27
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： WE270_rev_1.0
试验报告日期/ Test Report Date： 2020-06-10
试验单位/ Laboratory: NORTH INVENT A/S
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： 31140
试验报告日期/ Test Report Date： 2021-11-30
试验单位/ Laboratory: APPLICA TEST & CERTIFICATION
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-22-007
试验报告日期/ Test Report Date： 2022-02-10
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-3279
试验报告日期/ Test Report Date： 2022-03-25
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-3282
试验报告日期/ Test Report Date： 2022-04-12
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-22-087/088/111/112/113/114/115/122/123/124/125/126
试验报告日期/ Test Report Date： 2022-08-31
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-22-142/143
试验报告日期/ Test Report Date： 2022-09-09
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-3327
试验报告日期/ Test Report Date： 2022-10-20
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-3278
试验报告日期/ Test Report Date： 2023-03-09
试验单位/ Laboratory: FURUNO ELECTIRC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： K03-17-3393-0
试验报告日期/ Test Report Date： 2023-10-22
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： DB23PTB00131
试验报告日期/ Test Report Date： 2023-12-22
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD.
试验单位地址/ Test Address:

试验报告编号/ Test Report No.： LIC 12-24-005/006/007/008/011
试验报告日期/ Test Report Date： 2025-04-10
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address: 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, Japan

试验报告编号/ Test Report No.： LIC 12-24-009
试验报告日期/ Test Report Date： 2024-04-18
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address: 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, Japan

试验报告编号/ Test Report No.： LIC 12-24-010, Rev.1
试验报告日期/ Test Report Date： 2025-08-07
试验单位/ Laboratory: Labotech International Co., Ltd.
试验单位地址/ Test Address: 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, Japan

试验报告编号/ Test Report No.： DB24PTB00125
试验报告日期/ Test Report Date： 2025-02-20
试验单位/ Laboratory: FURUNO ELECTRIC CO., LTD. MIKI FACTORY
试验单位地址/ Test Address: 9-52 Ashihara-cho, Nishinomiya City, Hyogo , Japan

认可后的产品检验方式/ Method of Product Inspection after Approval

按规范认可后应进行产品检验的产品/The product should be inspected in term of the rules：
认可后的产品检验应由本社验船师根据本社规范规定按批准的产品检验计划进行检验，经检验合格后由本社颁发船用产品证书。
After approval, product inspection should be carried out by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be issued by the Society upon satisfactory inspection.

认可保持条件/ Maintenance Requirements of Approval

1.型式认可后，如果产品及其重要零部件的设计、所用材料或制造方法有所改变，且影响到产品的主要特性、特征；或产品的性能指标有所更改，且超过认可的范围，则有关图纸和文件应经检验机构审批。并在检验机构认为必要时，经本社检验人员见证有关试验和进行检查，其结果应能证实仍符合认可条件。
After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.
2.工厂的质量管理体系应保持有效运行，并且与认可时一致。如果质量管理体系发生改变，应经原体系认证机构审核并报本社批准。
The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.
3.认可证书有效期内，如果出现可能导致本社取消认可的情况，工厂应及时采取有效的纠正措施。
Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.
4.在认可证书有效期内，本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核，以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。
Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

备注/Remarks

1. 本证书由原型式认可证书（No. DB23PTB00131）变更并替代原证书。
This Certificate is modified from and supersedes the previous Type Approval Certificate No. DB23PTB00131.

2. 本社已审核了产品厂无石棉声明，但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。
The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

中国船级社大阪分社
CCS Osaka Branch