



**automatically better welding**

# e684x1

Precision. That is the mission of every welder with every weld. The ability to clearly view the weld and the environment is essential to striking the perfect arc.

Taking optrel's autodarkening filter technology to the next level, the e684 is the only welding helmet that fully automates protection through its Adaptive Shade Autopilot, automatically adjusting the shade level as one welds, in full High Definition Viewing. This new level of clarity not only keeps welders better protected, it enables them to perform their job more efficiently, with greater accuracy and precision every time.

When it comes to precision welding, do not settle for anything less.

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## Fully automatic welding helmet in HD quality.

### Adaptive Shade Autopilot

*Set it and forget it.*

optrel's exclusive Adaptive Shade Autopilot automatically adjusts the e684 ADF to the appropriate shade level as you weld – *set it and forget it!* Its third sensor helps the e684 immediately detect changes in arc intensity and adjust accordingly. This allows you to stay focused on what really matters: striking the perfect arc.



### High Definition Viewing

*Superior viewing at every angle.*

Like viewing a high definition television, the e684's special HD lens provides a true color view to the welder. Its Class 1 angular dependency allows welders to see the clearest, crispest view possible, enabling welders to concentrate and make their weld with more precision.



### Cooling Helmet Design

*Keep cool, even when the heat is on.*

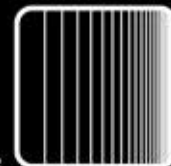
Reflecting light and heat, the e684's special silver helmet keeps the welder's head cooler by 23% compared to other unpainted and dark helmets. In extremely hot environments, welders can work longer and be more comfortable over a long period of time.



### Twilight ADF Technology

*New technology reduces eye fatigue.*

Unlike other ADF lenses that rapidly return to light, the e684's Twilight ADF Technology restores light more naturally, presenting a smoother transition to the eyes. This exclusive technology reduces eye fatigue on welders who are continuously welding, enabling them to work safer and more comfortably.



### e3000 Compatible

*Breathe easier.*

The e684 is compatible with the NIOSH-certified e3000 PAPR, uniting the most advanced welding and respiratory systems available. The e3000's innovative HEPA class Th3 filters block more than 99.8% of particulates for increased safety. Meanwhile, users can adjust its two-channel air distribution inside the helmet to both mouth and nose, and forehead, improving overall comfort while reducing fatigue.



### Multi-Purpose Use

*Optimized for overhead welding & grinding.*

With shade levels 4/5-13, the e684 is suited for the majority of welding applications, including all electric arc welding, plasma welding and cutting, and oxy-gas welding, and is acceptable for overhead welding. Plus, its external Grind Mode button makes it easy to switch modes.



# automatically better welding

## do not settle for anything less

Contact your local optrel dealer or visit [www.optrel.com/usa](http://www.optrel.com/usa) for more information

### Ordering Information

| product                        | part no. | product                    | part no. |
|--------------------------------|----------|----------------------------|----------|
| e684 Helmet                    | 1006.500 | Front Cover Lens (5 pack)  | 5000.212 |
| e3000 System w/ e684 Helmet    | 4550.103 | Inside Cover Lens (5 pack) | 5000.001 |
| e684 Helmet for e3000          | 4442.004 | Front Sweatband            | 5004.073 |
| Replacement ADF Cartridge      | 5012.480 | Back Sweatband             | 5004.020 |
| optrel Parking Buddy Belt Clip | 5002.900 |                            |          |

### Technical Specifications

|  |  |  |  |                  |
|--|--|--|--|------------------|
| <b>Description</b>                                 | Fully automatic welding helmet with true color definition, autodarkening filter with shade level range of 5 - 9 / 9 - 13 | <b>Classification EN 379</b>   | Optical Class<br>Scattered Light<br>Homogeneity<br>Angular Dependence  | 1<br>1<br>1<br>1 |
| <b>Shade Level (SL)</b>                            | SL 4/5-13  | <b>Classification EN 166</b><br><b>Classification EN 166</b><br><b>Classification EN 175</b> | Front Cover Lens<br>Inside Cover Lens<br>Helmet Shell  | B<br>F<br>B      |
| <b>Adaptive Shade Autopilot</b>                    | For the range of SL 5 - 13 with the option of an individual calibration of +/- 2 shade levels                            | <b>Shape Stability</b>   | Welding Mask: up to 220°C / 428°F<br>Front Cover Lens: up to 137°C / 279°F   |                  |
| <b>Manual Mode</b>                                 | Infinitely variable outside operability for two shade ranges, SL 5 - 9 and 9 - 13  | <b>Protection for ADF</b>  | Spherically shaped front cover lens with patented seal, which makes it suitable for overhead welding   |                  |
| <b>Sensitivity</b>                                 | Infinitely variable with new "Super High" sensitivity setting range  | <b>Welding Applications</b>  | All Electric Arc Welding processes<br>Electrode Welding (Stick Welding, SMAW)<br>MIG • MAG (GMAW) • GMAW High Melting Rate Process • Flux Cored Wire Welding<br>TIG welding (GTAW) • Plasma Arc Welding<br>Micro Plasma Arc Welding • Plasma Cutting & Oxy-Gas Welding • Grinding • Overhead<br><i>Prohibited for laser and gas welding!</i> |                  |
| <b>Grinding Mode</b>                               | Shade Level 4  | <b>Scope of Delivery</b>   | Welding Helmet with Replacement Front Cover Lens, Cloth Storage Bag, and Instruction Manual  |                  |
| <b>Twilight ADF Technology</b>                     | Patented delay time control to open the autodarkening filter, adjustable from 0.1 to 2.0 seconds.                        | <b>Standards</b>   | CE, ANSI Z87.1, AS/NZS, EAC<br>Complies with CSA Z94.3   |                  |
| <b>Dimension of ADF (Autodarkening Filter)</b>     | 90 x 110 x 7mm / 3.55" x 4.33" x 0.28"<br>50 x 100 mm / 1.97" x 3.94" (viewing area)                                     | <b>Warranty</b>  | Two years from date of sale for manufacturing and material defects (excluding batteries)<br><br>One additional year after online registration within the first six months of purchase <a href="http://www.optrel.com/register">www.optrel.com/register</a>   |                  |
| <b>Power Supply</b>                                | Solar cells, 2 Li-batteries 3V (CR2032)  |  |  |                  |
| <b>Battery Operating Time</b>                      | Approx. 3,000 hours  |  |  |                  |
| <b>Sensors</b>                                     | Three sensors with adjustable arc detection angle via Sensor Slider  |  |  |                  |
| <b>Eye Protection (UV / IR)</b>                    | Maximum protection at any shade setting  |  |  |                  |
| <b>Switching Time</b><br><i>from light to dark</i> | 0.170 ms at room temperature<br>0.110 ms at 55°C / 131°F   |  |  |                  |
| <i>from dark to light</i>                          | 0.1s to 2.0s with Twilight ADF Technology  |  |  |                  |
| <b>Operating Temperature</b>                       | -10°C to + 70°C / 14°F to 158°F  |  |  |                  |
| <b>Storage Temperature</b>                         | -20°C to + 80°C / -4°F to 176°F  |  |  |                  |
| <b>Weight</b>                                      | 500g / 17.637 oz   |  |  |                  |



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